802.11n Wireless Series

Wireless Broadband Router

User Manual

Version: 2.0

Date: November 10, 2008

FCC Certifications

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CE Mark Warning

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class B for ITE, the essential protection requirement of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Company has an on-going policy of upgrading its products and it may be possible that information in this document is not up-to-date. Please check with your local distributors for the latest information. No part of this document can be copied or reproduced in any form without written consent from the company.

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Unpacking Information

Thank you for purchasing the product. Before you start, please check all the contents of this package.

The product package should include the following:

1. One Wireless Router
2. One power adapter
3. One Quick Installation Guide
4. One User Manual (CD)
5. Three antennas

Introduction to Wireless Router

General Description

The IEEE802.11n Wireless Router is compatible with IEEE802.11n draft 2.0 standard, which supports data rate up to 300 Mbps in 2.4 GHz band, which is also compatible with IEEE 802.11b/g wireless devices. The router allows multiple users to share one broadband connection, as well as secures your private network. With its built-in 4-port switch and wireless AP, LAN users can share files, printers, or playing network games all at a blazing speed.

To provide a secure wireless network, this router supports wireless data encryption with 64/128-bit WEP, WPA and WPA2. Network Address Translation (NAT) Firewall is also support to shield your communications and network from hackers and wireless eavesdroppers.

The Wireless Router built-in with 4-port 10/100Mbps Fast Ethernet Switch is the latest generation of Wireless router product for Home/Office and SOHO users. This full-feature and self-contained compact Wireless Router will be fully for broadband access in both of LAN and Wireless environment. This device has been specifically designed to provide LAN and Wireless users the most cost-effective method with

multiple accesses to the Internet at the cost of a single public IP address (IP Sharing)

and enjoy the true Plug-and-Play installation. Moreover, the built-in 4-port 10/100Mbps switch lets users plug the network cable into the device without buying additional switch.

This device is also an Access Point. It has a built-in wireless LAN. Users can connect to Internet using wireless network interfaces anywhere within the range of its radio transmission. It’s ideal for SOHO users who require instant and convenient access to

Internet without the restriction of connecting cables.

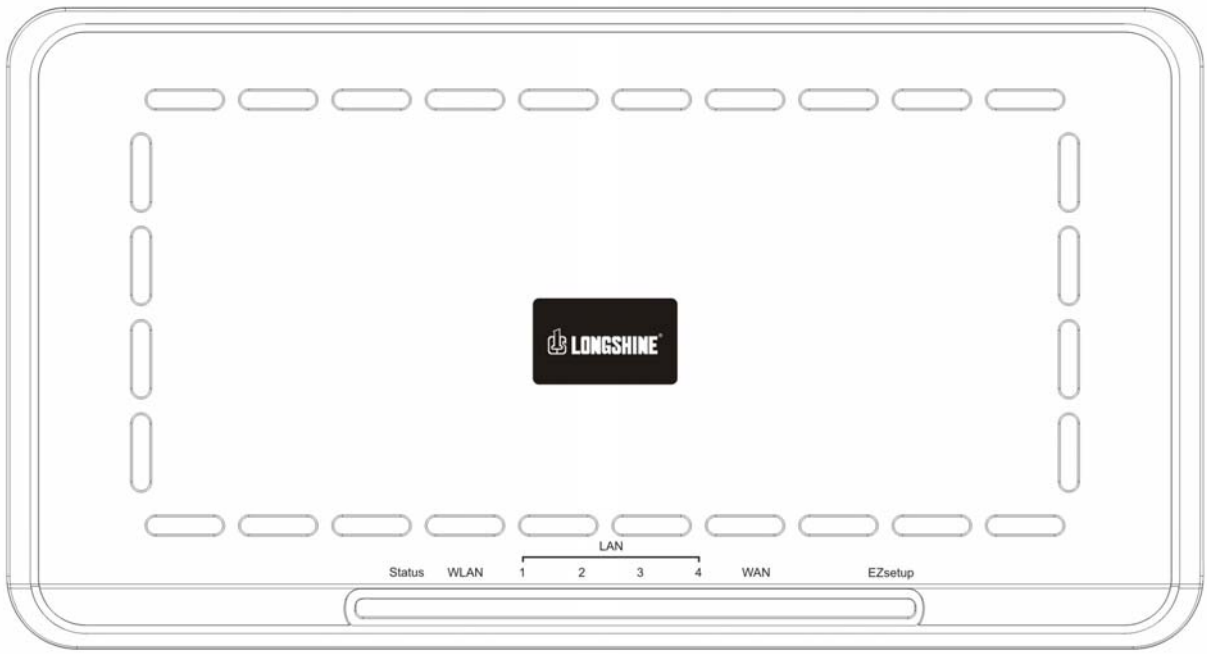
Key Features

The switch provides the following key features:

- Compatible with IEEE 802.11n draft 2.0, 802.11b/g wireless standards
- Provides three 802.11n/b/g wireless Reverse SMA antennas
- High speed transfer data rate up to 300Mbps
- Supports wireless data encryption with 64/128-bit WEP, WPA and WPA2
- Supports authentication for wireless connectivity based on ESSID
- Supports multiple BSSID.
- Provides hidden SSID function
- WDS supported with WEP, TKIP and AES encryption
- Channel: USA 11, Europe 13
- Supports NAT / IP sharing
- Supports WAN connection type-Static IP, DHCP client, PPPoE and PPTP
- Firewall; Virtual DMZ; DNS relay; UPnP
- Provides DHCP server
- Supports DDNS (DynDNS, TZO)
- Supports firmware upgrade function via Web
- Supports system log
- Certifications: FCC Class B, CE Mark

The Front Panel

The front panel of the Wireless Router:



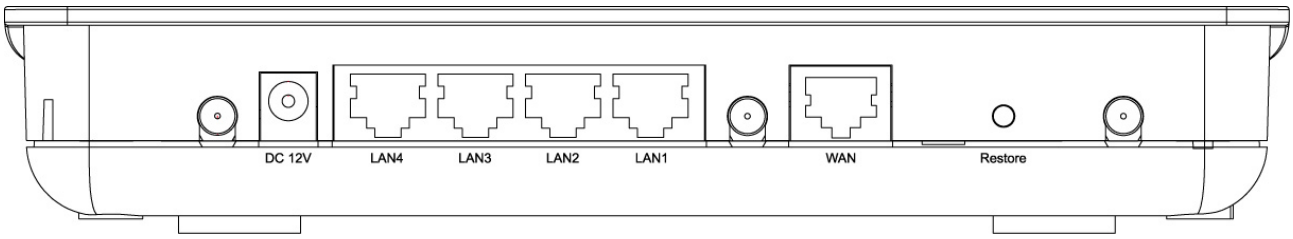
LEDs Definitions

- Status LED
  The LED will be dark for a few seconds when the system is started. After that, the LED will blink periodically to show the Wireless Router is working normally. If the LED stays green/dark that means the system failed, you need to contact your agent or try to reboot the system.
- WLAN LED
  When Wireless Router is ready for data transmitting and receiving, it is steady green.
- LAN LEDs
  Every port has an Act/Link LED. Steady green (link state) indicates that the port has good linkage to its associated devices. Flashing green indicates that the port is receiving or transmitting data between its associated devices.
- WAN LED
  The LED stays light (green) means the WAN port has good linkage to its associated devices.
  The LED will blink green when there is traffic transverse the port.
- EZsetup Button[1]
  EZsetup button helps out users to connect this Router to Internet quickly. It uses Push Button Communication (PBC) method, in which users can simply push this button to easy setup WPS connection. Please refer to WPS settings for more information.

[1] This button may not supplied depend on your model. Users can select the **PBC** mode in the WPS settings web page to reach the same function.

The Rear Panel

The rear panel of the Wireless Router is shown below.



Power Connection

Plug the circle end of the power adapter firmly into the rear panel of the Wireless Router, and the other end put into an electric service outlet then the system is ready.

Restore Default Button

1. Push the button for more than 5 seconds and then release it, the system will return to factory default setting. In the meantime, system rewrites flash to default value and Status LED halts for a while. Approximately 60 seconds later, the Status LED blinks green periodically, now the whole system parameters have returned to factory default value. If the process has been interrupted by any reason (power off…), the system will fail. Before performing the process, ensure a safe operating environment please!

2. To reboot the Router, press the button for 2-5 seconds and then release it, and all the setting won't be erased. Wait for the Router to complete the reboot, and then you can start to use it.

Warning : Incomplete factory setting recovery procedure will cause the Wireless Router malfunction ! If you are unfortunately in this situation, do not try to repair it by yourself. Consult your local distributor for help!

Placement (Optional)

There are three ways to place the Router. The first way is to place the Router vertically on a surface. The second way is to attach it to a magnetic surface. The third way is to attach it to the wall. If you select a wall-mount option, please follow the steps below:

1. Select a location with access for cables and a power outlet.
2. Unplug the unit. Place it upside down on a flat surface and mark the two holes for anchors.
3. Installing the wall mount anchor (not supplied) into the wall with tools such as drill or hammer.
4. Insert the screws (not supplied) in each hole of the stand parts.

5. Attaches the unit to the anchors on the wall.

Installing and Using Wireless Router

This chapter provides a step-by-step guide to the installation and configuration of the Wireless Router. We suggest you go over the whole chapter and then do more advanced operation.

Connecting this Router to your network

Steps to build up the network:

- Connect the ADSL or Cable modem to the Ethernet WAN port on the back of the Wireless Router by using the UTP cable.
- Connect the phone line from the wall socket to the line-in port on the ADSL modem, or the coaxial cable to the line-in port on the Cable modem.
- Plug-in the power adapter to the modem and turn on the power. Install the Ethernet card into the computer by referring to the User Guide that came with the card.
- Connect the computer to the Wireless Router by using standard twisted-pair Ethernet cable from the computer's Ethernet card to a 10/100Mbps Ethernet port on the back of the Wireless Router.
- Plug-in the power adapter to the Router and the other side to the wall outlet.

Configuring the IP address of your computer

In order to communicate with this Wireless Router, you have to configure the IP addresses of your computer to make it compatible with the device. The router supports DHCP server and it is enabled as default. Users that configure your IP address as **"Obtain an IP address automatically"** may skip the following IP configuration instruction.

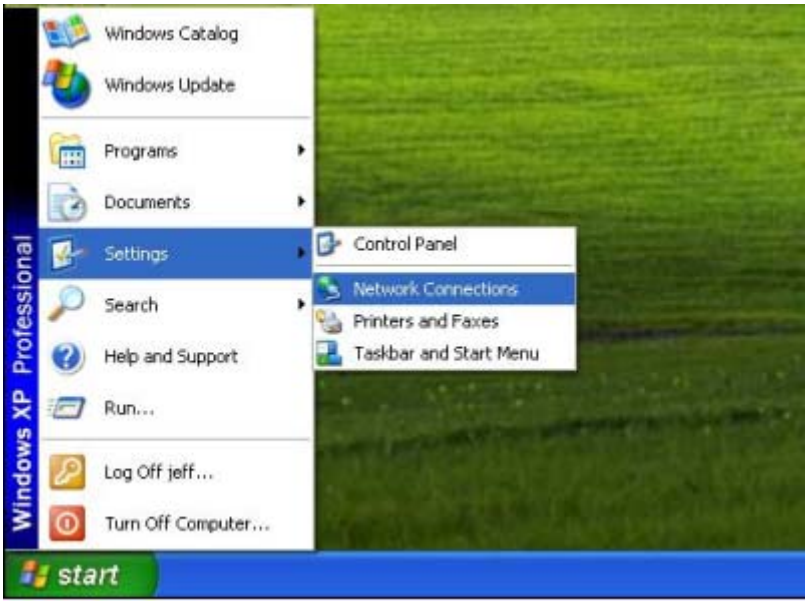
Note:

1. The default network setting of the device:
   IP address: 192.168.1.1
   Subnet Mask: 255.255.255.0
   DHCP Server: enable
2. In the following TCP/IP configuration guide, the IP address "192.168.1.2" is assumed to be your IP address if you want to specify IP addresses manually. Please **DO NOT** choose "192.168.1.1" as the IP address. For the IP address "192.168.1.1"has been set as the default IP for this device.
3. The following TCP/IP configuration guide uses windows XP as the presumed

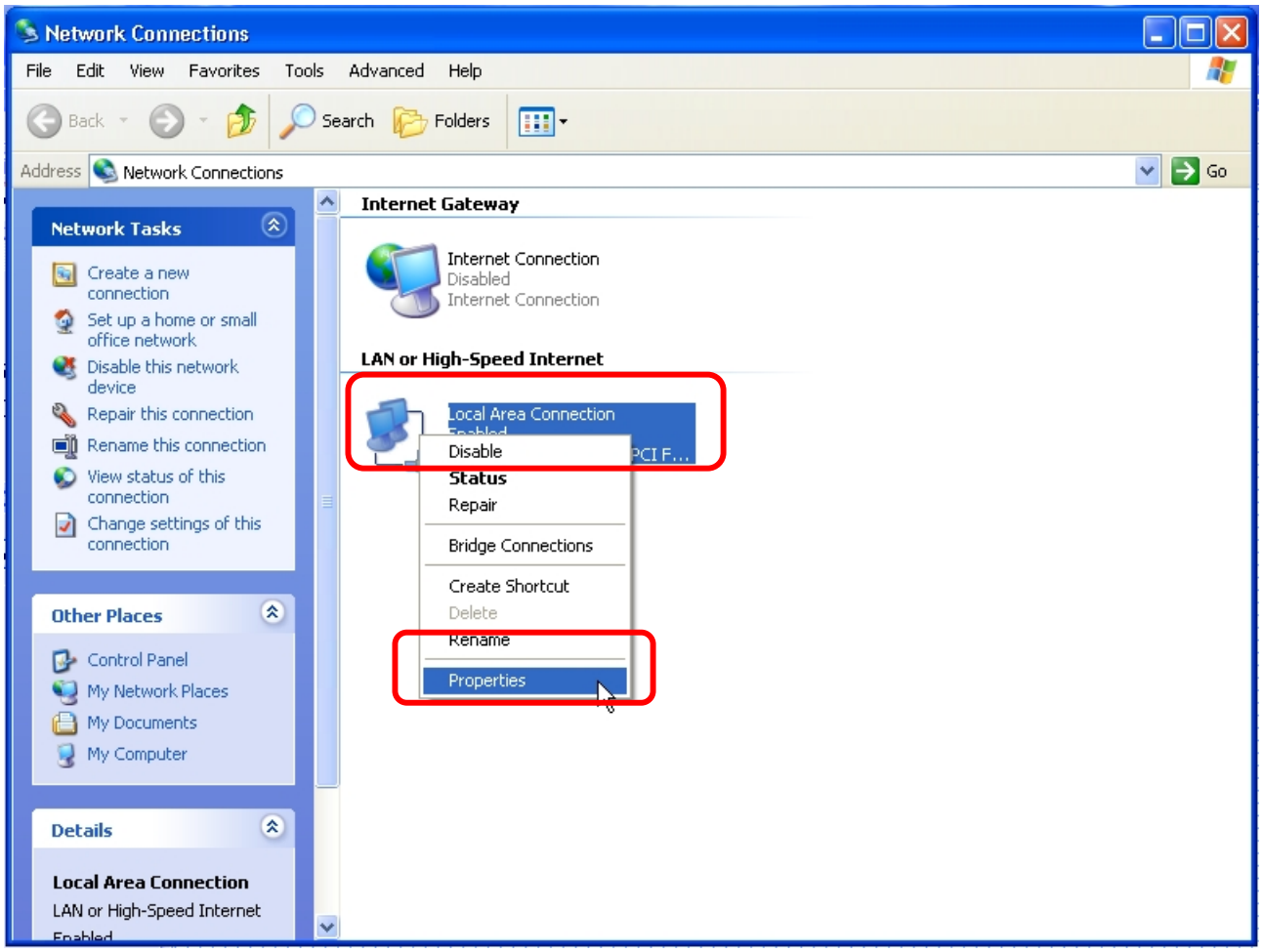
operation system.

Procedures to configure IP addresses for your computer

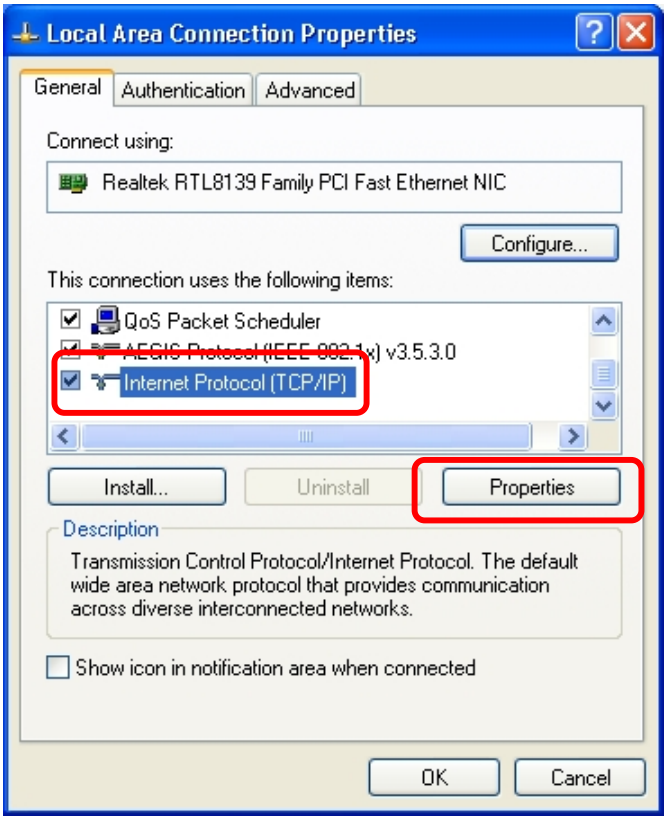
1. If you are in Classic Start menu view, click **Start > Settings > Control Panel > Network Connections**. If you are in Start menu view, click **Start > Control Panel > Network Connections.**



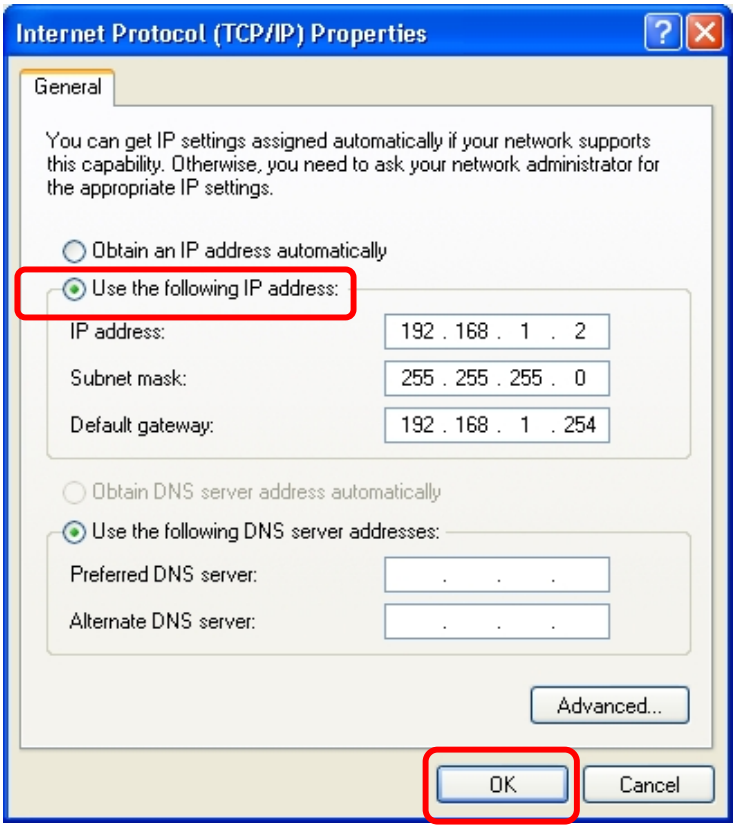
2. Right-click on **Local Area Connection** item and double-click on **Properties**.



3. Choose **Internet Protocol (TCP/IP)** and click **Properties**.



4. You may choose “Obtain an IP address automatically” (recommend) to get IP address automatically or choose “Use the following IP address” to specify IP addresses manually. Please click the **OK** button after your configuration.

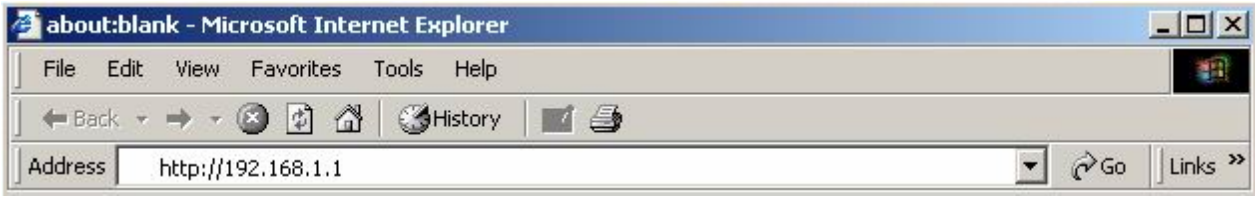

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 1 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
192 . 168 . 1 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Starting the WEB-Based Management Interface

The device uses WEB as the management interface. You can use a browser to access the management interface easily. Please follow the steps listed below.

1. Double click the Internet WEB browser icon on your desktop screen (Netscape Communicator 4.0 and Internet Explorer 3.0 or update version)

2. Type 192.168.1.1 into the URL WEB address location and press Enter.



3. The Login window appears.

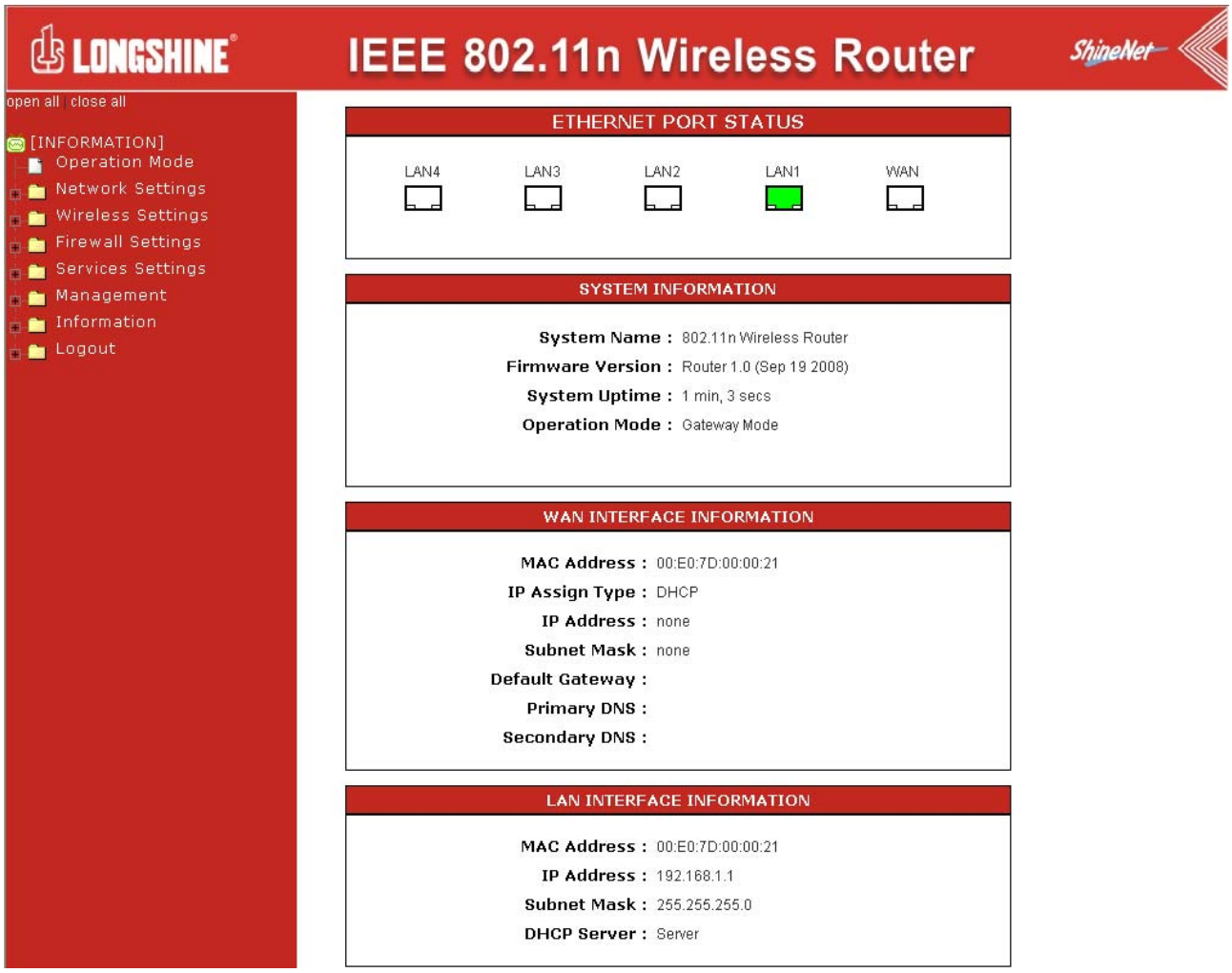
   - Enter **admin** in the User Name location (default value).
   - Enter **admin** in the Password location (default value).
   - Click **OK** button.

Note: Don't forget to change the User Name and Password to ensure the security. Please go to the configuration page of Management > Admin Account to reset the login information.

The Graphic User Interface

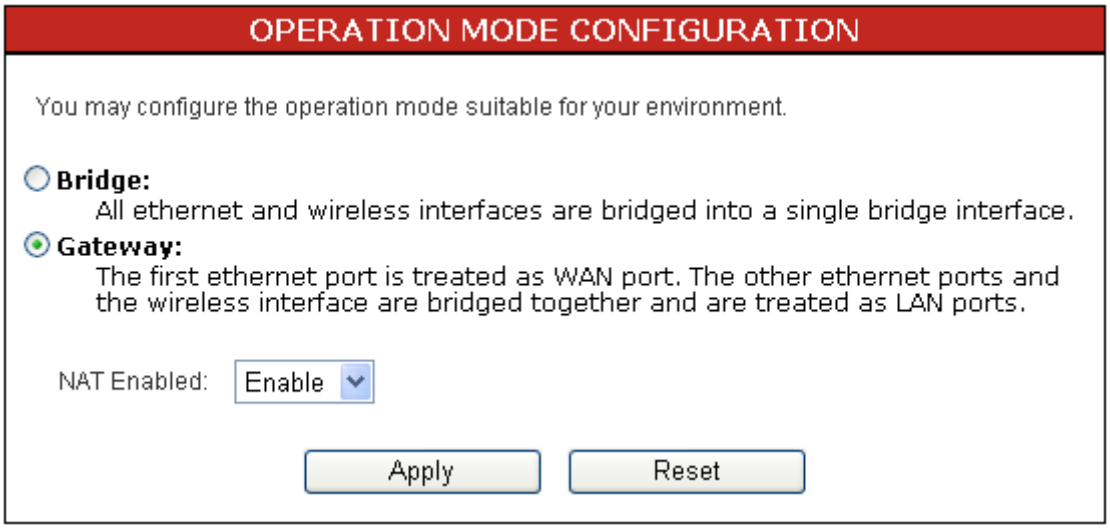
After the password authorization, the information page shows up as the home page of the Graphic User interface. You may click on each folder on left column of each page to get access to each configuration page. You can select “open all” to open all the subcategories, or “close all” to close all the subcategories.

Note: Please note that you should click the **Save Settings** button to apply your configuration to this device. You can also restore the default settings by clicking the **Reset Settings** button.



Operation Mode

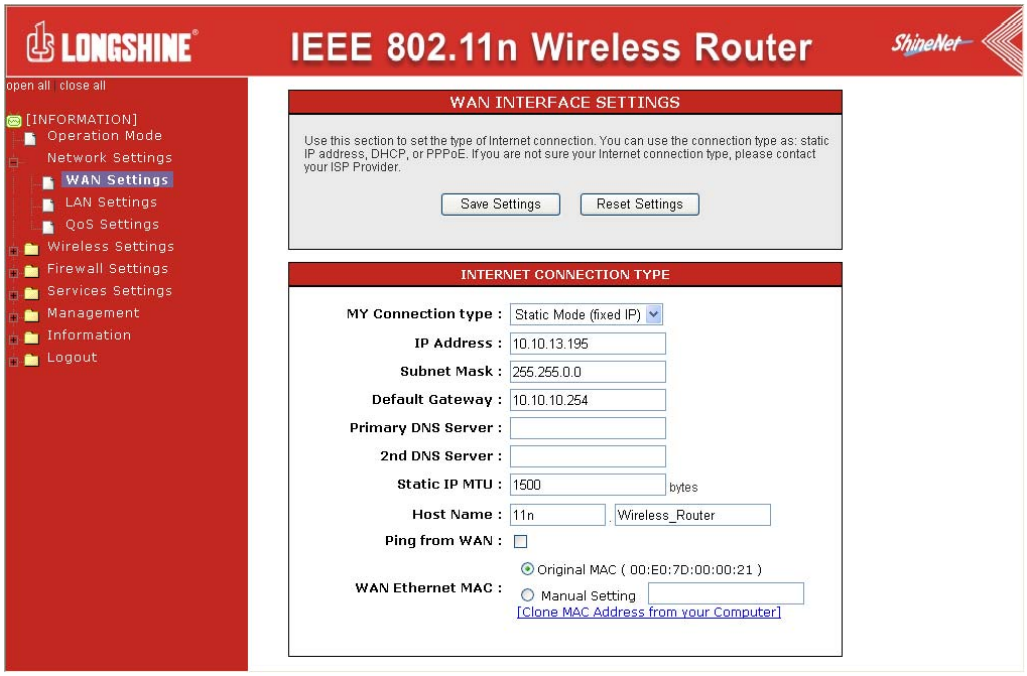
To select an operation mode for this router, click on the mode that you want to perform and click the Apply button to execute. NAT enable multiple hosts on a private network to access the Internet using a single public IP address.


OPERATION MODE CONFIGURATION
You may configure the operation mode suitable for your environment.
Bridge:
All ethernet and wireless interfaces are bridged into a single bridge interface.
Gateway:
The first ethernet port is treated as WAN port. The other ethernet ports and the wireless interface are bridged together and are treated as LAN ports.
NAT Enabled:
Enable
Apply
Reset

Network Setting

WAN Interface Setup

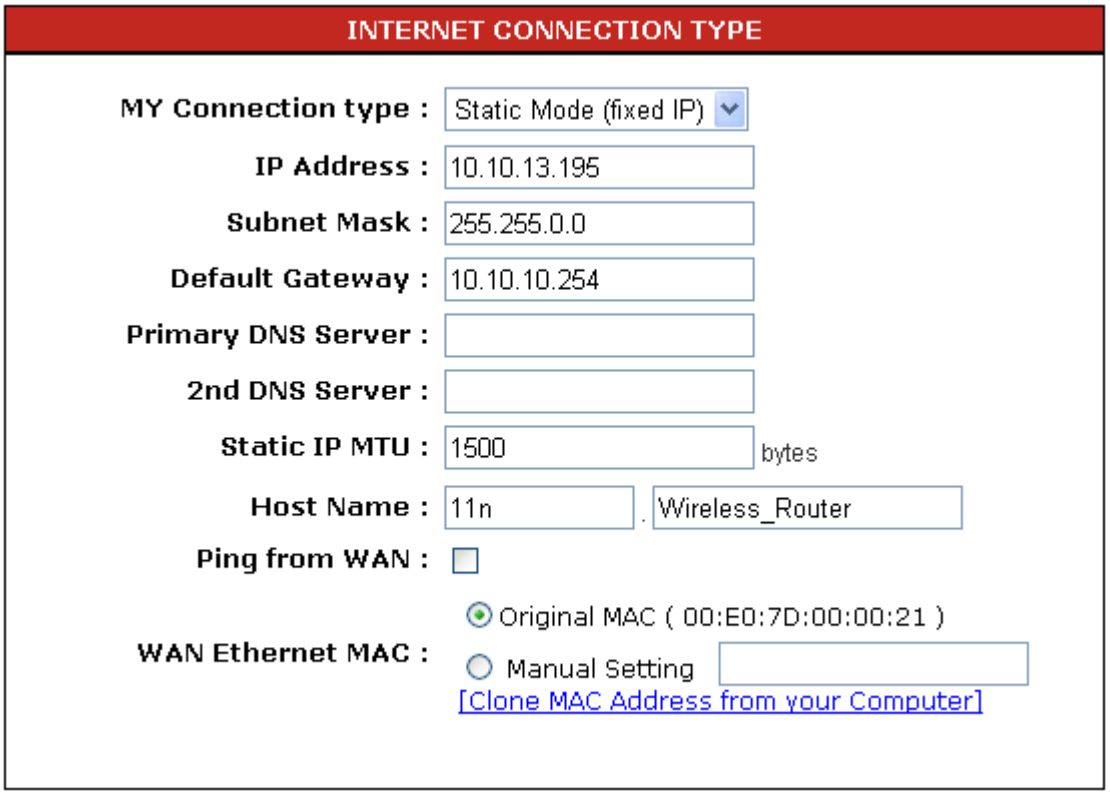
This page allows users to configure those parameters for connecting to Internet. You may select the Internet connection type from the “My Connection type” drop-down list and configure parameters for each mode. Five modes for selection: Static, DHCP, PPPoE, L2TP, and PPTP mode.


LONGSHINE
IEEE 802.11n Wireless Router
ShineNet
open all close all
[INFORMATION]
Operation Mode
Network Settings
WAN Settings
LAN Settings
QoS Settings
Wireless Settings
Firewall Settings
Services Settings
Management
Information
Logout
WAN INTERFACE SETTINGS
Use this section to set the type of Internet connection. You can use the connection type as: static IP address, DHCP, or PPPoE. If you are not sure your Internet connection type, please contact your ISP Provider.
Save Settings
Reset Settings
INTERNET CONNECTION TYPE
MY Connection type : Static Mode (fixed IP)
IP Address : 10.10.13.195
Subnet Mask : 255.255.0.0
Default Gateway : 10.10.10.254
Primary DNS Server :
2nd DNS Server :
Static IP MTU : 1500 bytes
Host Name : 11n Wireless_Router
Ping from WAN :
WAN Ethernet MAC : Original MAC (00:E0:7D:00:00:21)
Manual Setting
[Clone MAC Address from your Computer]

Static Mode (fixed IP)

If you need to assign static IP addresses to the devices in your network, please remember that the IP address for each computer or device must be in the same IP address range as all the devices in the network. Each device must also have the same subnet mask. For example: Assign the first computer an IP address of 192.168.1.2 and a subnet mask of 255.255.255.0, the second device an IP address of 192.168.1.3 and a subnet mask of 255.255.255.0, and so on.

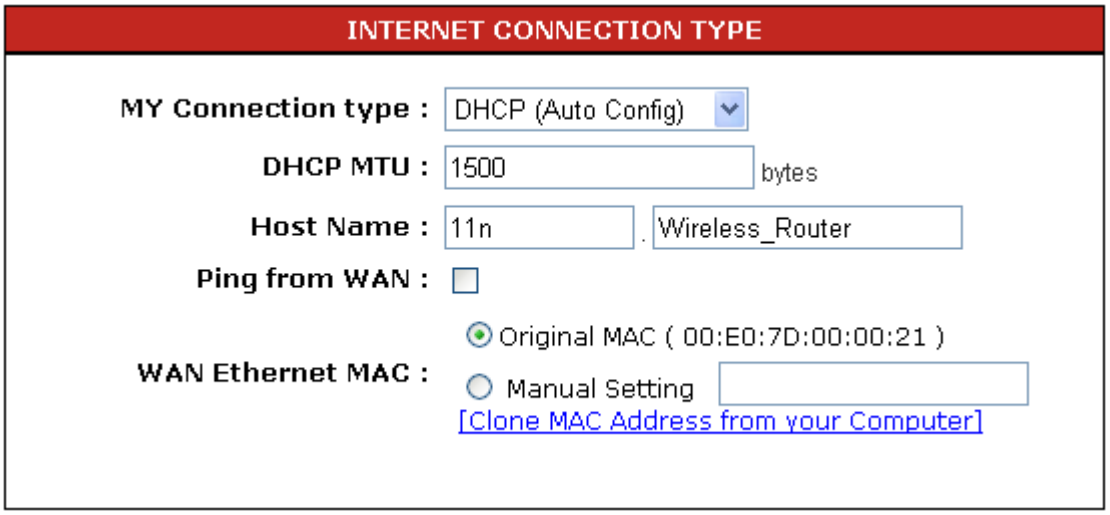
Note: Devices that are assigned the same IP address may not be visible on the network. Enter the IP address of the DNS server. The DNS server translates domain names into IP addresses.



Items	Information
IP Address, Subnet Mask and Default Gateway	Fill in the IP address, Subnet Mask and Default Gateway that provided by your Internet Service Provider (ISP).
Primary and 2nd DNS Server	To specify the Domain Name System (DNS). The DNS server translates domain names into IP addresses. Enter the DNS provided by your ISP in 1st and 2nd server.
Static IP MTU	To enable the Maximum Transmission Unit of Router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter the MTU number in the blank to set the limitation (default 1500bytes).
Host Name	Name of this device.
Ping from WAN	Mark the checkbox to enable others detecting this device from WAN, and clear the checkbox to disable.
WAN Ethernet MAC	Select to use the following MAC as the MAC address while serving Internet: Original MAC: the MAC of the device. Manual Settings: the MAC of your computer. Click on "Clone MAC Address from your Computer" to clone your computer MAC address in the blank. You can also change the MAC address if you need.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

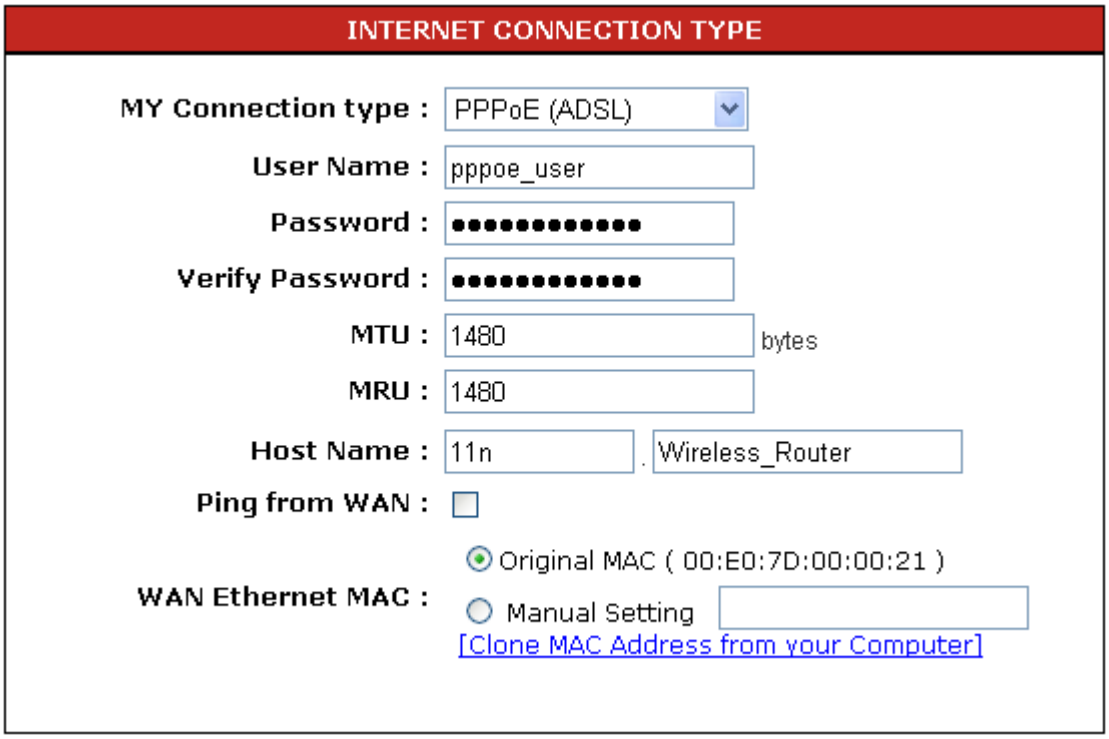
DHCP (Auto Config)



Items	Information
DHCP MTU	To enable the Maximum Transmission Unit of Router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter your MTU number in the text-box to set the limitation (default 1500bytes).
Host Name	The name of this device. The default name is "Wireless_11n_Router."
Ping from WAN	Mark the checkbox to enable others detecting this device from WAN, and clear the checkbox to disable.
WAN Ethernet MAC	Select to use the following MAC as the MAC address while serving Internet: Original MAC: the MAC of the device. Manual Settings: the MAC of your computer. Click on "Clone MAC Address from your Computer" to clone your computer MAC address in the blank. You can also change the MAC address if you need.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

PPPoE (ADSL)

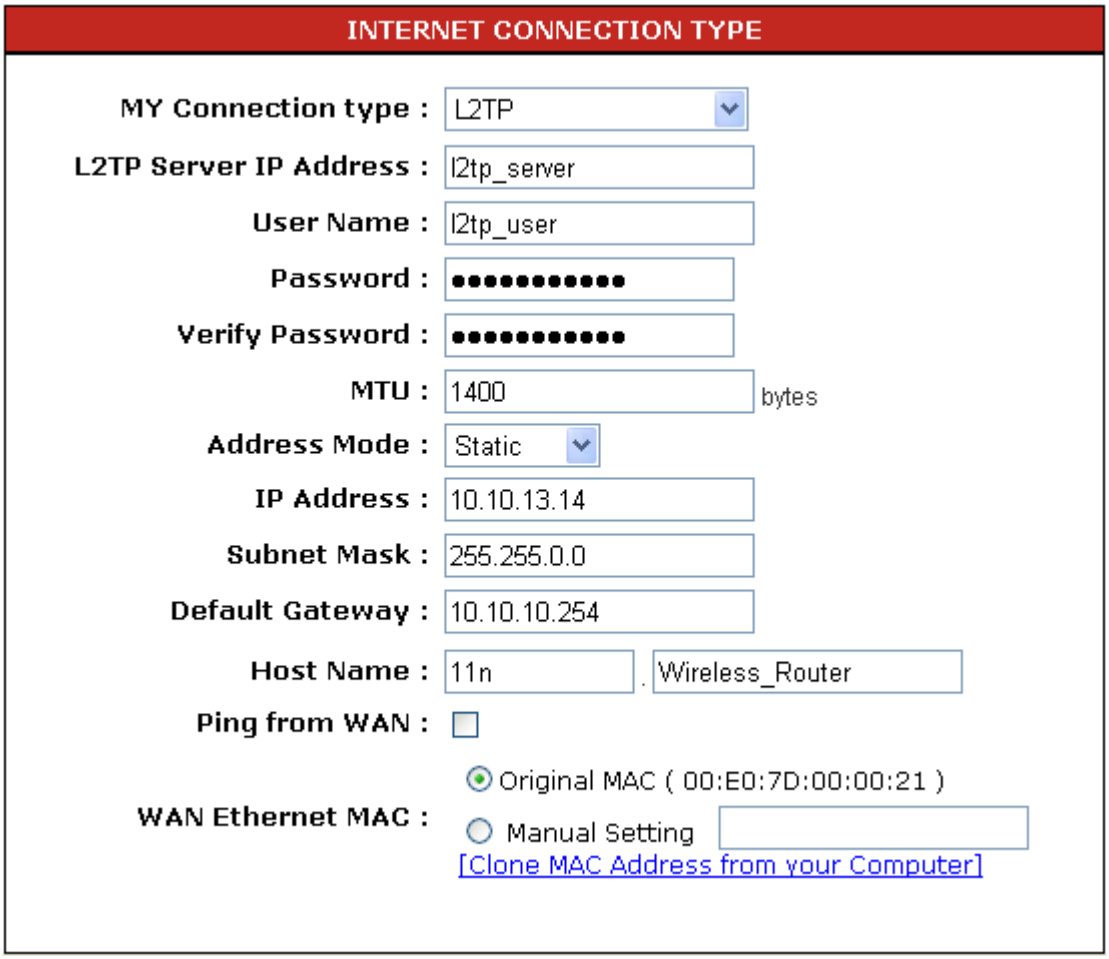


Items	Information
Username and Password	Fill in the User Name and Password that provided by your ISP.
Verify Password	Retype the password to confirm.
MTU	To enable the Maximum Transmission Unit of Router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter your MTU number in the text-box to set the limitation (default 1492 bytes).
MRU	To enable the Maximum Receiving Unit of Router setup. Any packet over this number will be chopped up into suitable size before receiving. Larger number will enhance the receive performance. Enter your MRU number in the text-box to set the limitation (default 1492 bytes).
Host Name	The name of this device. The default name is “Wireless_11n_Router.”
Ping from WAN	Mark the checkbox to enable others detecting this device from WAN, and clear the checkbox to disable.
WAN Ethernet MAC	Select to use the following MAC as the MAC address while serving Internet: Original MAC: the MAC of the device. Manual Settings: the MAC of your computer. Click on “Clone MAC Address from your Computer” to clone your computer MAC address in the blank. You can also change the MAC address if you need.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

L2TP

Layer 2 Tunneling Protocol (L2TP), a tunneling protocol used to support virtual private networks (VPNs).



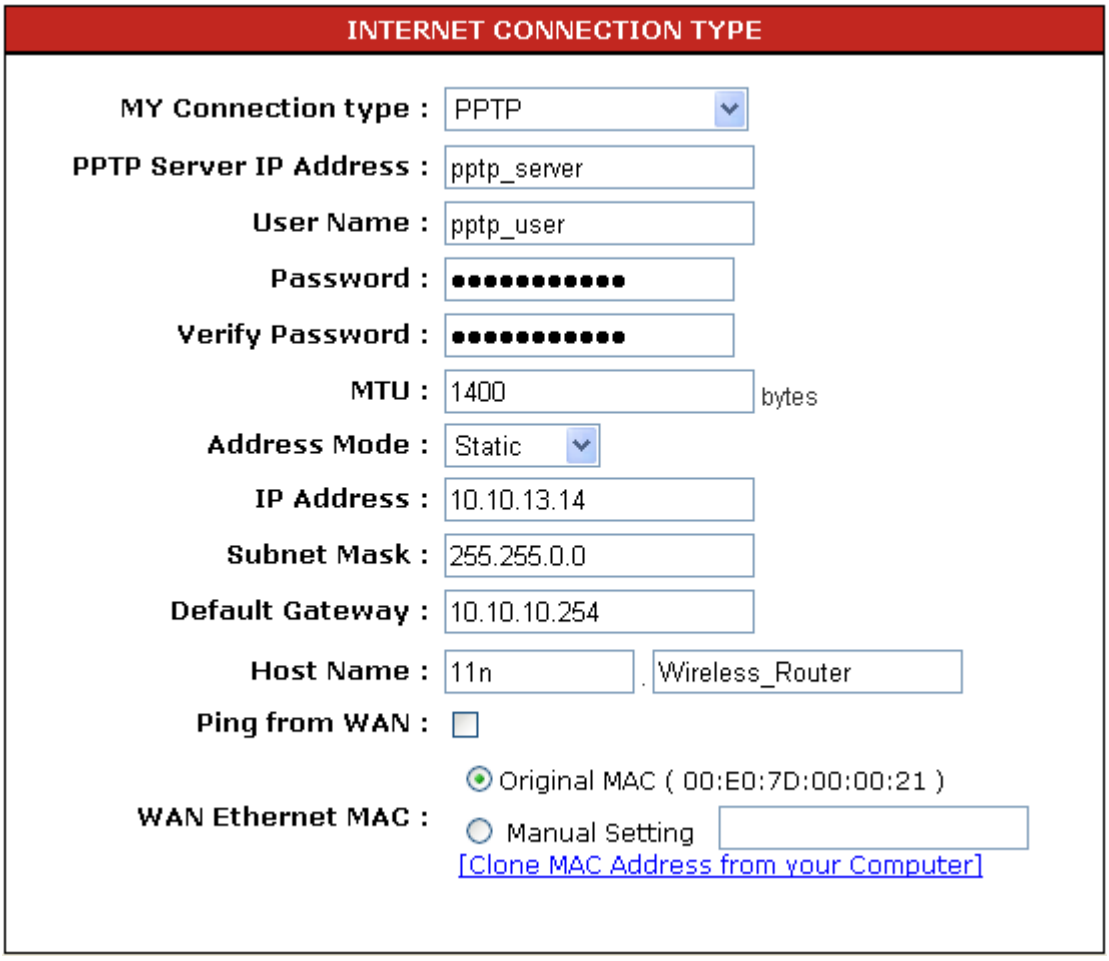
Items	Information
L2TP Server IP Address	Fill in the L2TP Server IP address that provided by your Internet Service Provider (ISP).
Username and Password	Fill in the User Name and Password that provided by your ISP.
Verify Password	Retype the password to confirm.
MTU	To enable the Maximum Transmission Unit of Router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter your MTU number in the text-box to set the limitation (default 1492 bytes).
Address Mode	Select to use Static or Dynamic IP mode.
IP Address, Subnet Mask and Default Gateway	Fill in the IP address, Subnet Mask and Default Gateway that provided by your Internet Service Provider (ISP).
Host Name	The name of this device. The default name is “Wireless_11n_Router.”
Ping from WAN	Mark the checkbox to enable others detecting this

	device from WAN, and clear the checkbox to disable.
WAN Ethernet MAC	Select to use the following MAC as the MAC address while serving Internet: Original MAC: the MAC of the device. Manual Settings: the MAC of your computer. Click on "Clone MAC Address from your Computer" to clone your computer MAC address in the blank. You can also change the MAC address if you need.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

PPTP

Point-to-Point Tunneling Protocol (PPTP) is a method for implementing virtual private networks (VPNs).

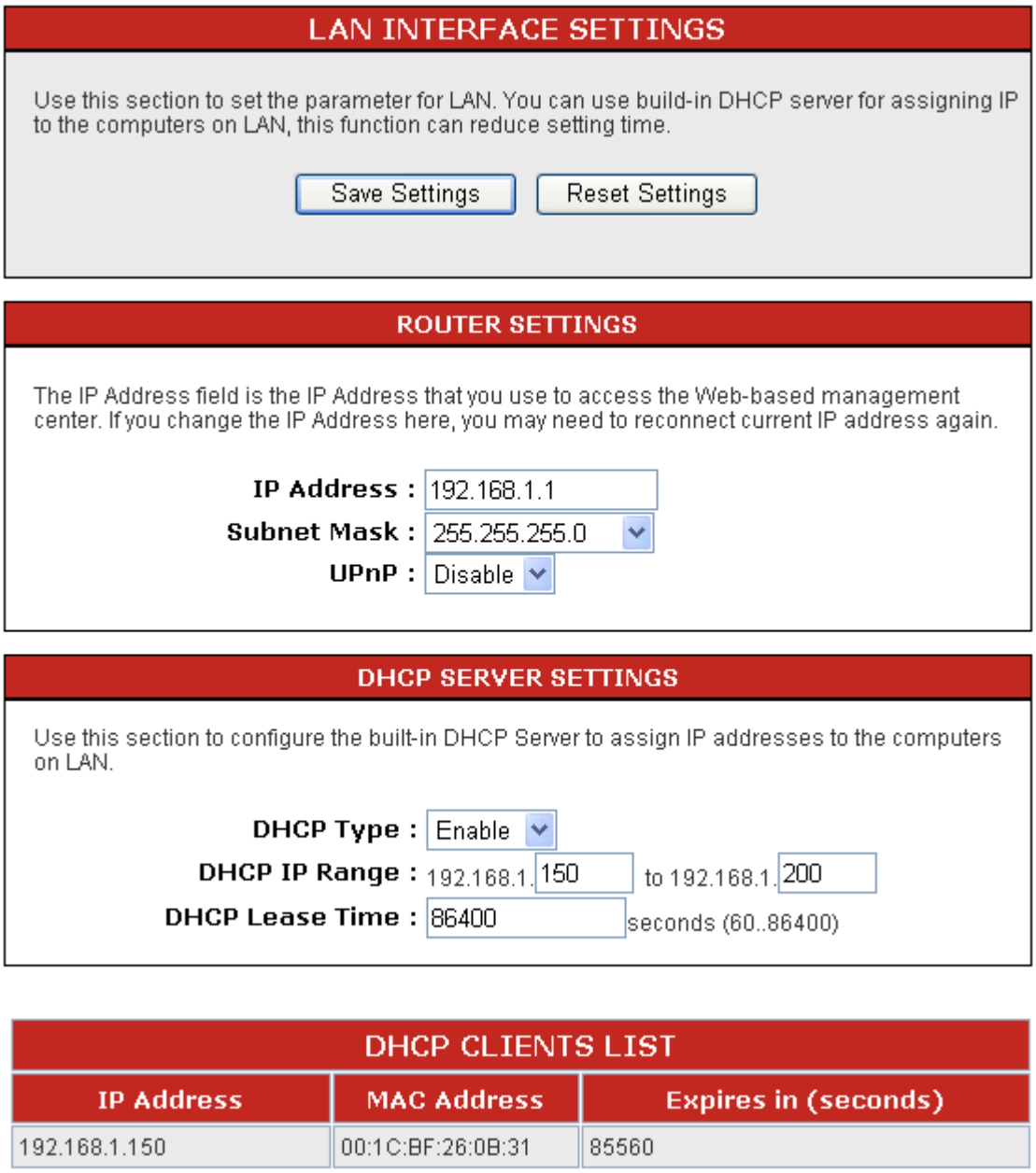


Items	Information
PPTP Server IP Address	Fill in the PPTP Server IP address that provided by your Internet Service Provider (ISP).
Username and Password	Fill in the User Name and Password that provided by your ISP.
Verify Password	Retype the password.
MTU	To enable the Maximum Transmission Unit of Router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter your MTU number in the text-box to set the limitation (default 1492 bytes).
Address Mode	Select to use Static or Dynamic IP mode.
IP Address, Subnet Mask and Default Gateway	Fill in the IP address, Subnet Mask and Default Gateway that provided by your ISP.
Host Name	The name of this device. The default name is "Wireless_11n_Router."
Ping from WAN	Mark the checkbox to enable others detecting this device from WAN, and clear the checkbox to disable.
WAN Ethernet MAC	Select to use the following MAC as the MAC address while serving Internet: Original MAC: the MAC of the device. Manual Settings: the MAC of your computer. Click on "Clone MAC Address from your Computer" to clone your computer MAC address in the blank. You can also change the MAC address if you need.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

LAN Interface Setup

To set up the configuration of LAN interface, private IP of your router LAN port and subnet mask for your LAN segment.


LAN INTERFACE SETTINGS
Use this section to set the parameter for LAN. You can use build-in DHCP server for assigning IP to the computers on LAN, this function can reduce setting time.
Save Settings
Reset Settings
ROUTER SETTINGS
The IP Address field is the IP Address that you use to access the Web-based management center. If you change the IP Address here, you may need to reconnect current IP address again.
IP Address : 192.168.1.1
Subnet Mask : 255.255.255.0
UPnP : Disable
DHCP SERVER SETTINGS
Use this section to configure the built-in DHCP Server to assign IP addresses to the computers on LAN.
DHCP Type : Enable
DHCP IP Range : 192.168.1. 150 to 192.168.1. 200
DHCP Lease Time : 86400 seconds (60..86400)

DHCP CLIENTS LIST

IP Address	MAC Address	Expires in (seconds)
192.168.1.150	00:1C:BF:26:0B:31	85560

Router Settings

Items	Information
IP Address	The IP of your Router LAN port (default 192.168.1.1).
Subnet Mask	Subnet Mask of you LAN (default 255.255.255.0). All devices on the network must have the same subnet mask to communicate on the network.
UPnP	Universal Plug and Play. Mark this checkbox to allow this router to be recognized by UPnP.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

DHCP Server Settings

DHCP stands for Dynamic Host Configuration Protocol. It is a protocol for assigning dynamic IP addresses "automatically." With a DHCP Server there is no need to manually assign an IP Address.

Items	Information
DHCP Type	To give your LAN Client an IP, you have to enable DHCP server. If not, manual setting up your client IP is necessary when you want to use the router as your client's default gateway.
DHCP IP Range	Specify the DHCP Client IP address range (default start from 150 and end to 200). **Note:** The number of the "End IP" must be greater than "Start IP", and cannot be the same as the router's IP address.
DHCP Lease Time	Choose the length of the time for the device to recycle and give out the IP addresses to the devices in your network (default 86400).

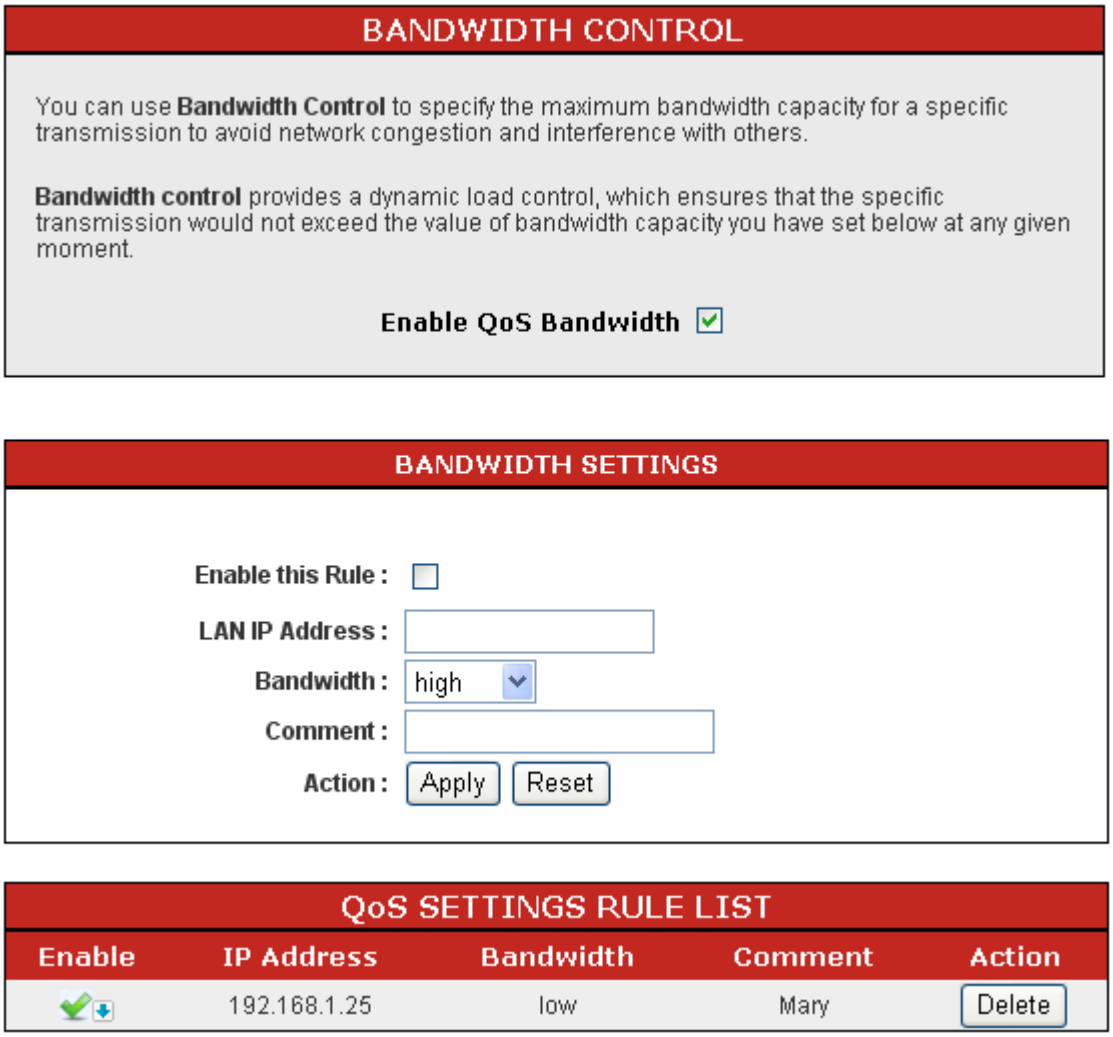
* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

DHCP Client List

The information of IP, MAC, address and expire time of the DHCP clients that have connected with this device.

QoS Settings

The QoS (Quality of Service) Settings page provides different priority to different users or data flows.


BANDWIDTH CONTROL
You can use Bandwidth Control to specify the maximum bandwidth capacity for a specific transmission to avoid network congestion and interference with others.
Bandwidth control provides a dynamic load control, which ensures that the specific transmission would not exceed the value of bandwidth capacity you have set below at any given moment.
Enable QoS Bandwidth
BANDWIDTH SETTINGS
Enable this Rule :
LAN IP Address :
Bandwidth : high
Comment :
Action : Apply Reset
QoS SETTINGS RULE LIST
Enable
IP Address
Bandwidth
Comment
Action
192.168.1.25
low
Mary
Delete

Bandwidth Settings

Items	Information
Enable this Rule	Mark to enable the configuration, and clear to disable.
LAN IP Address	Fill in the IP address that you wish to control.
Bandwidth	Select the bandwidth level of “high,” “normal,” or “low.”
Comment	Give a definition to the LAN IP Address.
Action	After configuring the above settings, click **Apply** to add a new list in the following MAC Access Control List. Or click the **Reset** button to reset the configurations.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

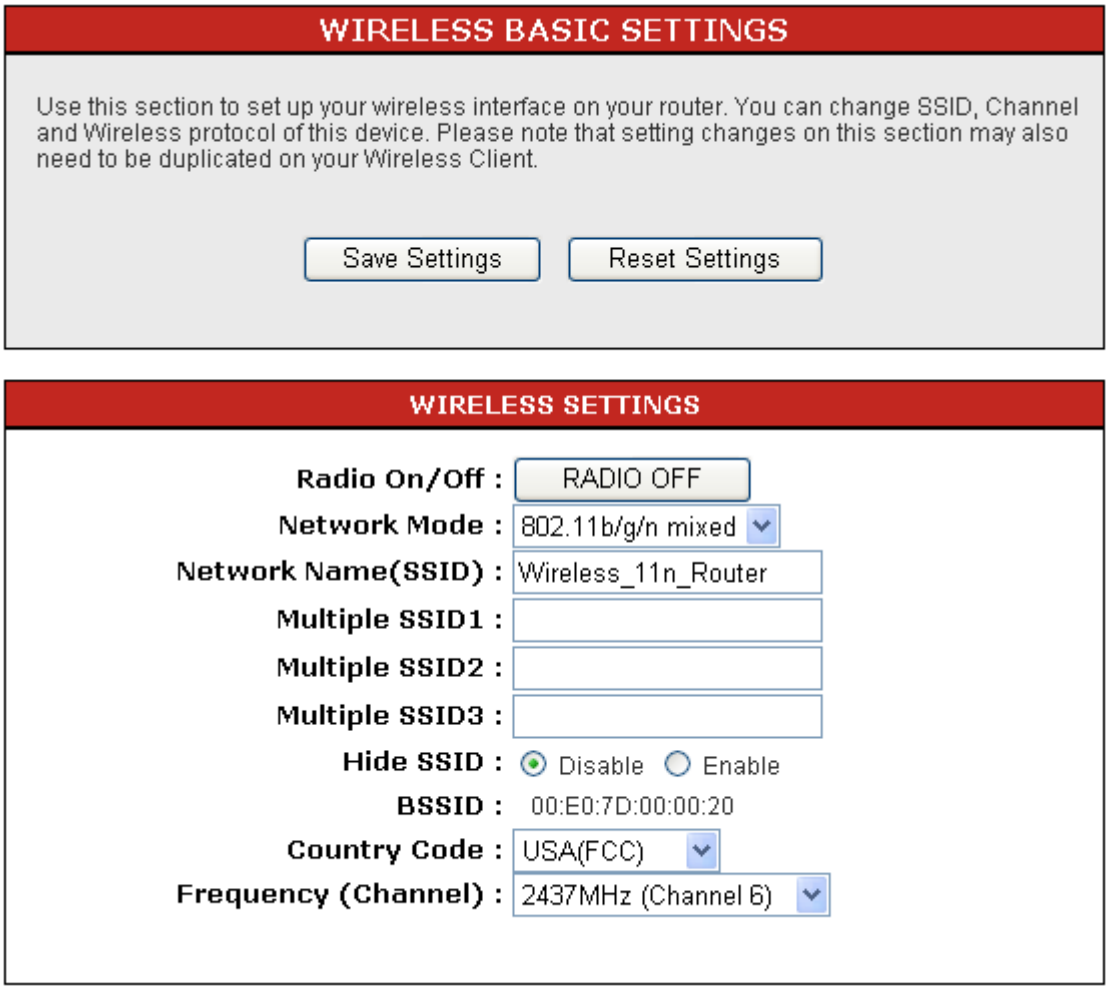
QoS Settings Rule List

Lists the Bandwidth QoS Settings you have added before. Click on the list to change configuration, or the **Delete** button to delete the list.

Wireless Settings

Basic Settings

You can set up the configuration of your Wireless basic settings and monitor the Wireless Clients associate with your router.

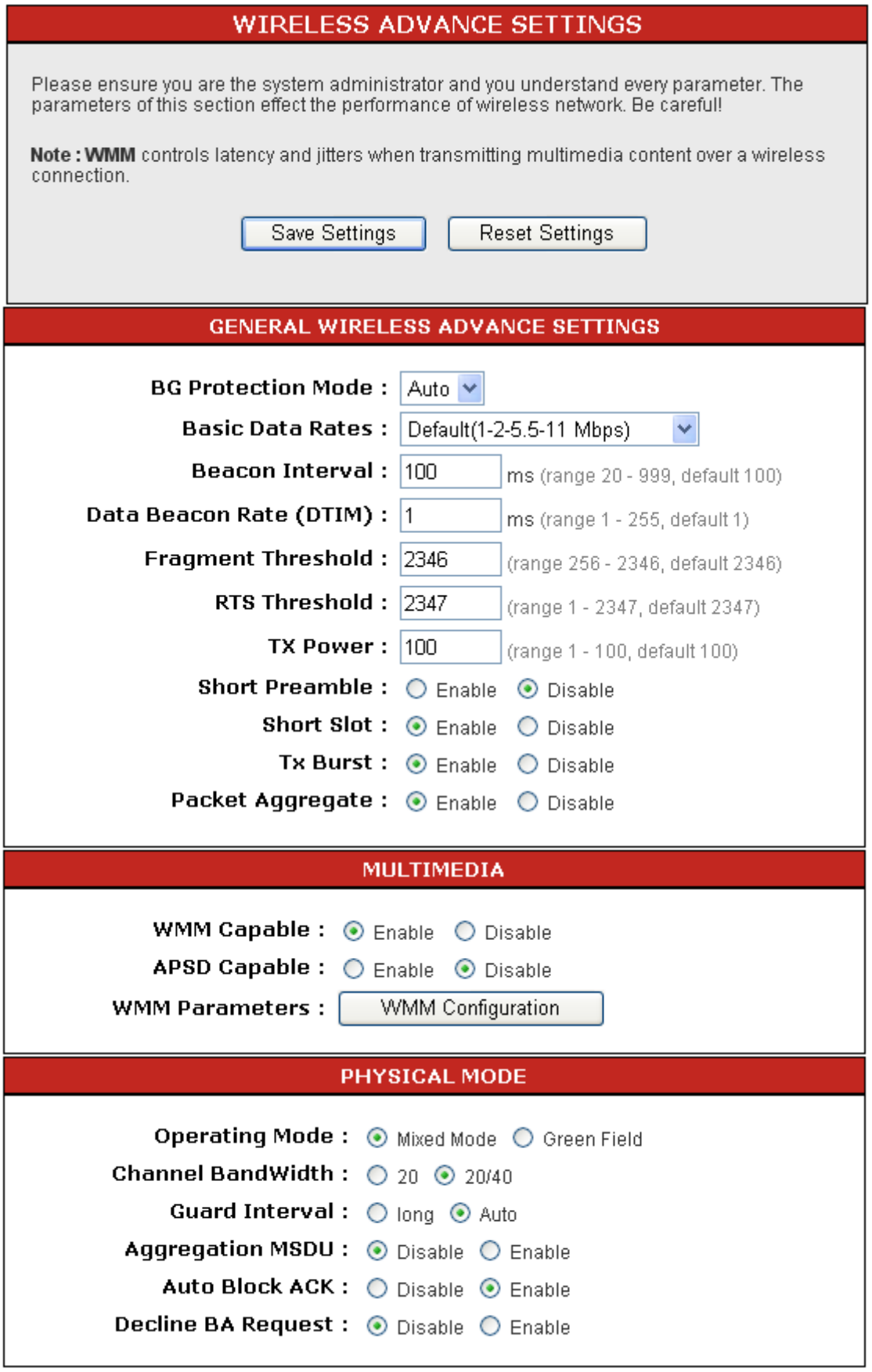

WIRELESS BASIC SETTINGS
Use this section to set up your wireless interface on your router. You can change SSID, Channel and Wireless protocol of this device. Please note that setting changes on this section may also need to be duplicated on your Wireless Client.
Save Settings
Reset Settings
WIRELESS SETTINGS
Radio On/Off :
RADIO OFF
Network Mode :
802.11b/g/n mixed
Network Name(SSID) :
Wireless_11n_Router
Multiple SSID1 :
Multiple SSID2 :
Multiple SSID3 :
Hide SSID :
Disable
Enable
BSSID :
00:E0:7D:00:00:20
Country Code :
USA(FCC)
Frequency (Channel) :
2437MHz (Channel 6)

Items	Information
Radio On/Off	Click on the button to enable or disable wireless connection status. Click on Radio Off button to prevent this adapter from transmitting or receiving signals. Click on Radio On button to enable this adapter from communicating.
Network Mode	Select wireless mode. 802.11 b/g/n mixed, 802.11b/g mixed, 802.11b only, 802.11g only, and 802.11n only are supported.
Network Name	Service set identifier (SSID) for the name of the wireless network.
Multiple SSID 1~3	You can set up to four SSID for this wireless network.
Hide SSID	Prevent this router from recognized in wireless network. This is disabled as default. Select “Disable” to show SSID, or “Enable” to hide SSID.
BSSID	Displays the Basic Service Set Identity (BSSID) of this router. This parameter is the same as the MAC address of LAN port.
Country Code	Select the region you live. Six countries to choose.
Frequency (Channel)	Select a channel for the wireless network of this device.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

Advanced Settings

You can set advanced wireless LAN parameters of this router. We recommend not changing these parameters unless you know what changes will be on this router.


WIRELESS ADVANCE SETTINGS
Please ensure you are the system administrator and you understand every parameter. The parameters of this section effect the performance of wireless network. Be careful!
Note : WMM controls latency and jitters when transmitting multimedia content over a wireless connection.
Save Settings
Reset Settings
GENERAL WIRELESS ADVANCE SETTINGS
BG Protection Mode : Auto
Basic Data Rates : Default(1-2-5.5-11 Mbps)
Beacon Interval : 100 ms (range 20 - 999, default 100)
Data Beacon Rate (DTIM) : 1 ms (range 1 - 255, default 1)
Fragment Threshold : 2346 (range 256 - 2346, default 2346)
RTS Threshold : 2347 (range 1 - 2347, default 2347)
TX Power : 100 (range 1 - 100, default 100)
Short Preamble : Enable Disable
Short Slot : Enable Disable
Tx Burst : Enable Disable
Packet Aggregate : Enable Disable
MULTIMEDIA
WMM Capable : Enable Disable
APSD Capable : Enable Disable
WMM Parameters : WMM Configuration
PHYSICAL MODE
Operating Mode : Mixed Mode Green Field
Channel BandWidth : 20 20/40
Guard Interval : long Auto
Aggregation MSDU : Disable Enable
Auto Block ACK : Disable Enable
Decline BA Request : Disable Enable

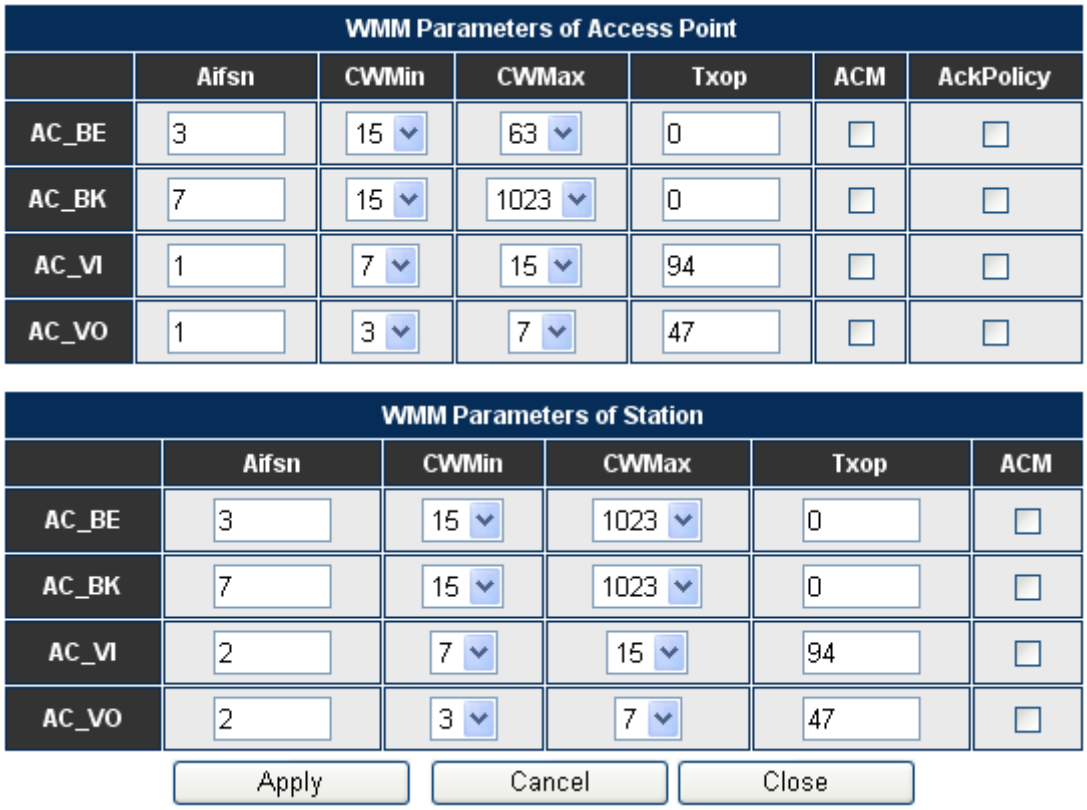
General Wireless Advance Settings

Items	Information
BG Protection Mode	Some 802.11g wireless adapters support 802.11g protections, which allows the adapter search for 802.11b/g singles only. Select “Auto” to turns it on or off automatically, select “Always On” to support protection or select “Always Off” to disable this function.
Basic Data Rates	The transfer rate of data packets of this wireless router. The wireless router will use the highest possible selected transmission rate to transmit the data packets. Three selections: “1-2 Mbps”, “Default (1-2-5.5-11 Mbps)”, and “All (1-2-5.5-11-12-24 Mbps).”
Beacon Interval	Beacons are packets sent by an access point to synchronize a wireless network. Specify a beacon interval value. Default (100ms) is recommended.
Data Beacon Rate (DTIM)	Enter a value between 1 and 255 (default 1) for the Delivery Traffic Indication Message (DTIM). A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.
Fragment Threshold	This value should remain at its default setting of 2346. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 0 to 2346. Setting the fragmentation threshold too low may result in poor performance.
RTS Threshold	Request To Send threshold. This value should remain at its default setting of 2347. If you encounter inconsistent data flow, only minor modifications to the value range between 1 and 2347 are recommended.
Tx Power	Transmit power. You can set the output power of wireless radio. This value should remain at its default setting of 100. If you
Short Preamble	The length of CRC block in the frames during the wireless communication.
Short Slot	Indicates that the 802.11g network is using a short slot time because there are no legacy (802.11b) stations present
Tx Burst	Select to enable or disable connecting to a Tx Burst supported device.
Package Aggregate	To aggregate lots of packets into a big one before transmitting packets. This can reduce control packet overhead.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

Wi-Fi Multimedia (WMM)

Items	Information
WMM Capable	This will enhance the data transfer performance of multimedia contents when they're being transferred over wireless network.
APSD Capable	Automatic Power Save Delivery. Select to enable / disable data flow using power saving mode during transmitting.
WMM Parameters	You can configure WMM parameters by clicking on the WMM Configuration button. The configuration window pops up (as shown below). Manually configure the parameters and click on the "Apply" button to execute.



* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

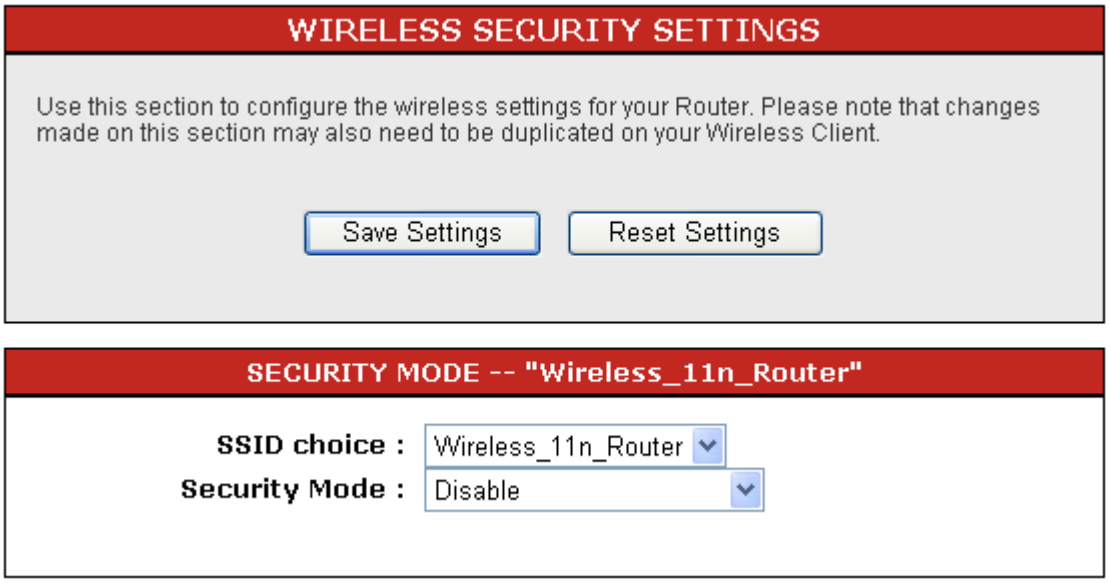
HT (Hyper Throughput) Physical Mode

Items	Information
Operating Mode	Select the mixed or green field mode as the operation mode.
Channel Bandwidth	Select the 40Mhz or 20/40Mhz as the channel bandwidth.
Guard Interval	Select 400ns or 800ns as the interval time.
Aggregation MSDU	Mark to enable Hyper Throughput TX Aggregate MAC Service Data Unit, and clear to disable.
Auto Block ACK	Select to block ACK (Acknowledge Number) or not during data transferring.
Decline BA Request	Select to reject peer BA-Request or not

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

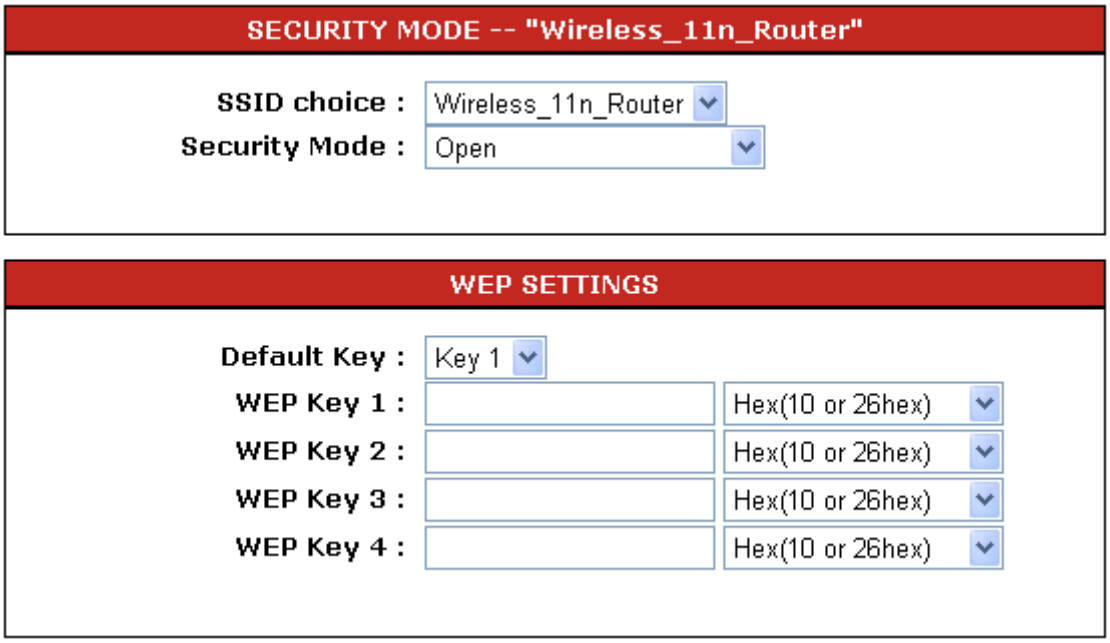
Security Settings

The Security function protects your wireless network from invasion. We provide WEP and WPA encryption to secure your wireless network. As default, the authentication is configured as safe mode. Please select None/WEP/WPA (Personal) in the drop list. If you select none, any data will be transmitted without encryption and any station can access the router.


WIRELESS SECURITY SETTINGS
Use this section to configure the wireless settings for your Router. Please note that changes made on this section may also need to be duplicated on your Wireless Client.
Save Settings
Reset Settings
SECURITY MODE -- "Wireless_11n_Router"
SSID choice :
Wireless_11n_Router
Security Mode :
Disable

Items	Information
SSID choice	Please choose a SSID you have set for this router in the Wireless Settings > Basic Settings from the drop-down list. The SSID will be shown on the wireless network for recognizing.
Security Mode	There are 6 modes for you to select: Open, Shared, WEP Auto, WPA-PSK, WPA2-PSK, and WPA-PSKWPA2-PSK. Please refer to the following description.

Security Mode -- Open / WEP Auto

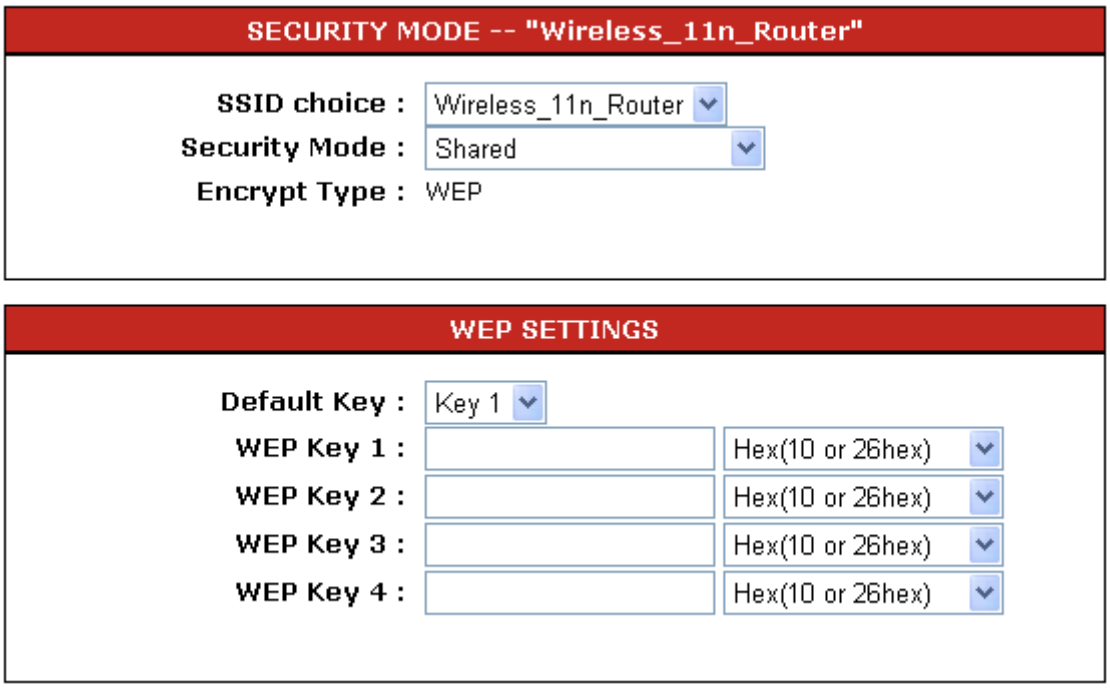


Items	Information
Default Key	Select to use the WEP key value of 1, 2, 3 or 4 as in the following settings.
WEP Key 1, 2, 3 and 4	Select ASCII[1] or Hex[2] to setup the key value.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

[1] ASCII (American Standard Code for Information Interchange) is a code for representing English letters as numbers from 0-127.
[2] Hexadecimal digits consist of the numbers 0-9 and the letters A-F.

Security Mode -- Shared

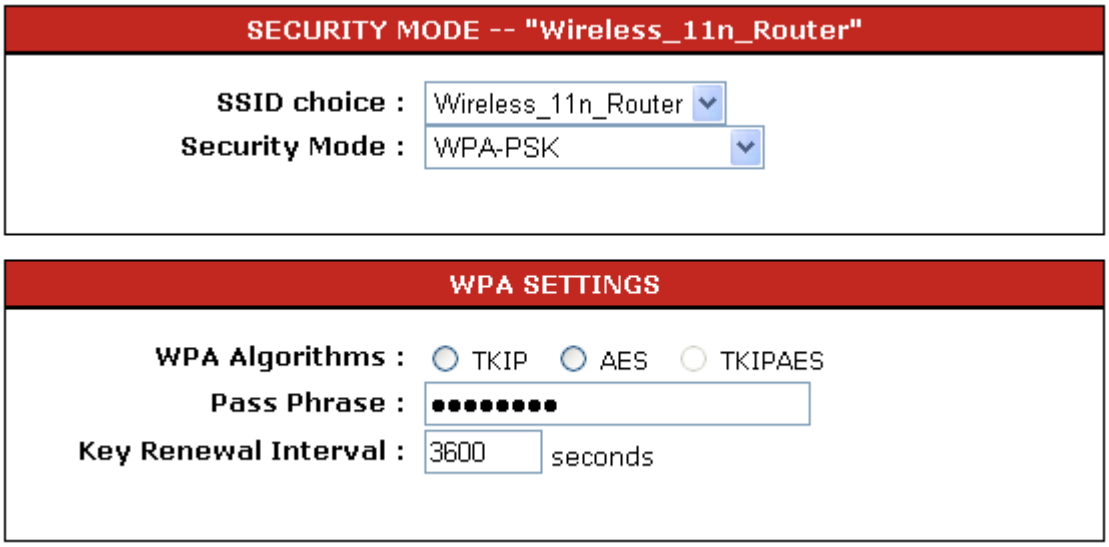


Items	Information
Default Key	Select to use the WEP key value of 1, 2, 3 or 4 as in the following settings.
WEP Key 1, 2, 3 and 4	Select ASCII[1] or Hex[2] to setup the key value.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

[1] ASCII (American Standard Code for Information Interchange) is a code for representing English letters as numbers from 0-127.
[2] Hexadecimal digits consist of the numbers 0-9 and the letters A-F.

Security Mode – WPA-PSK / WPA2-PSK / WPA-PSK + WPA2-PSK

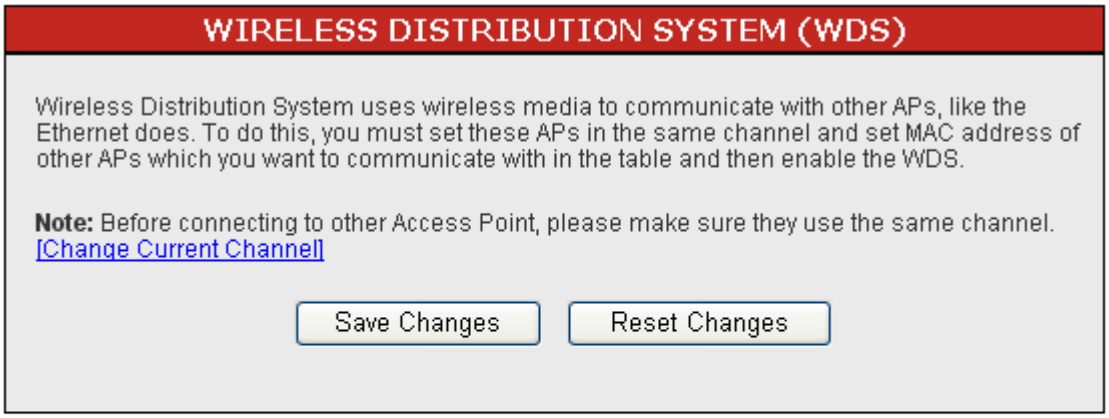


Items	Information
WPA Algorithms	Mark the option to enable modes of TKIP, AES, or TKIPAES (TKIPAES is only available in the security modes of WPA2-PSK and WPAPSK + WPA2-PSK)
Pass Phrase	Enter a pass phrase encryption key format (8~32 bytes).
Key Renewal Interval	Enter a value to setup the WPA key renewal interval. The device regenerates the key in every interval seconds that you have setup without disconnection.

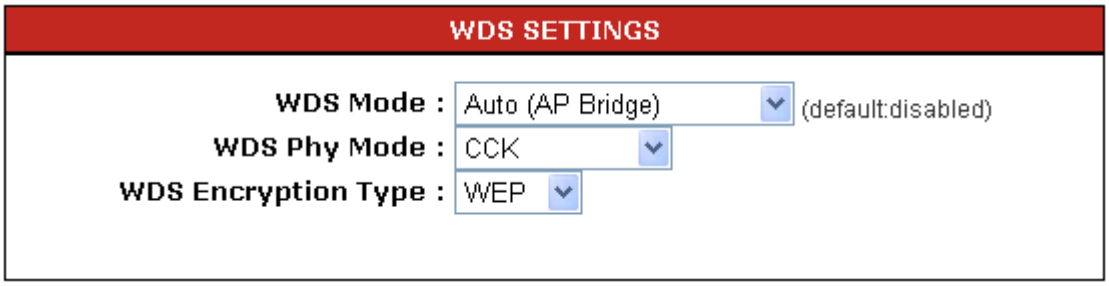
* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

WDS Settings

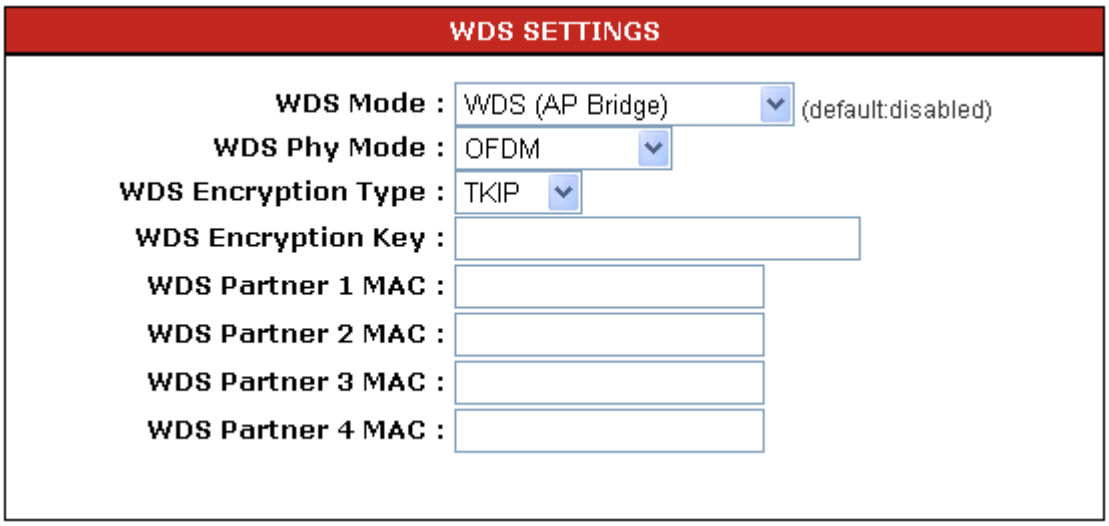
Wireless Distribution System allows the router to communicate with other APs wirelessly. To make it work, you must ensure that these APs and the Router are in the same channel. Please add these APs MAC address and comment values into the WDS list.


WIRELESS DISTRIBUTION SYSTEM (WDS)
Wireless Distribution System uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.
Note: Before connecting to other Access Point, please make sure they use the same channel.
[Change Current Channel]
Save Changes
Reset Changes

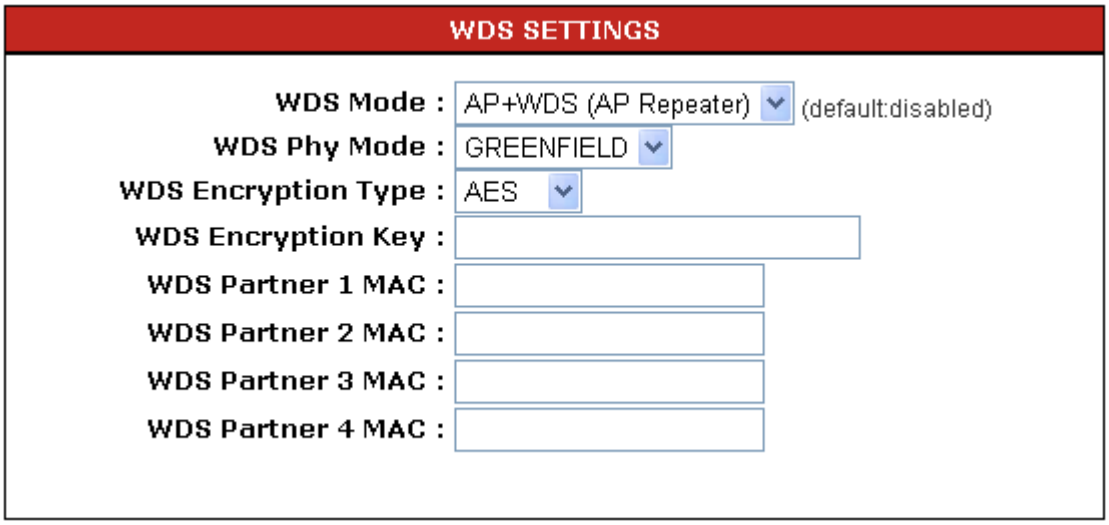
Auto (AP Bridge)



WDS (AP Bridge)


WDS SETTINGS
WDS Mode : WDS (AP Bridge) (default:disabled)
WDS Phy Mode : OFDM
WDS Encryption Type : TKIP
WDS Encryption Key :
WDS Partner 1 MAC :
WDS Partner 2 MAC :
WDS Partner 3 MAC :
WDS Partner 4 MAC :

AP+WDS (AP Repeater)

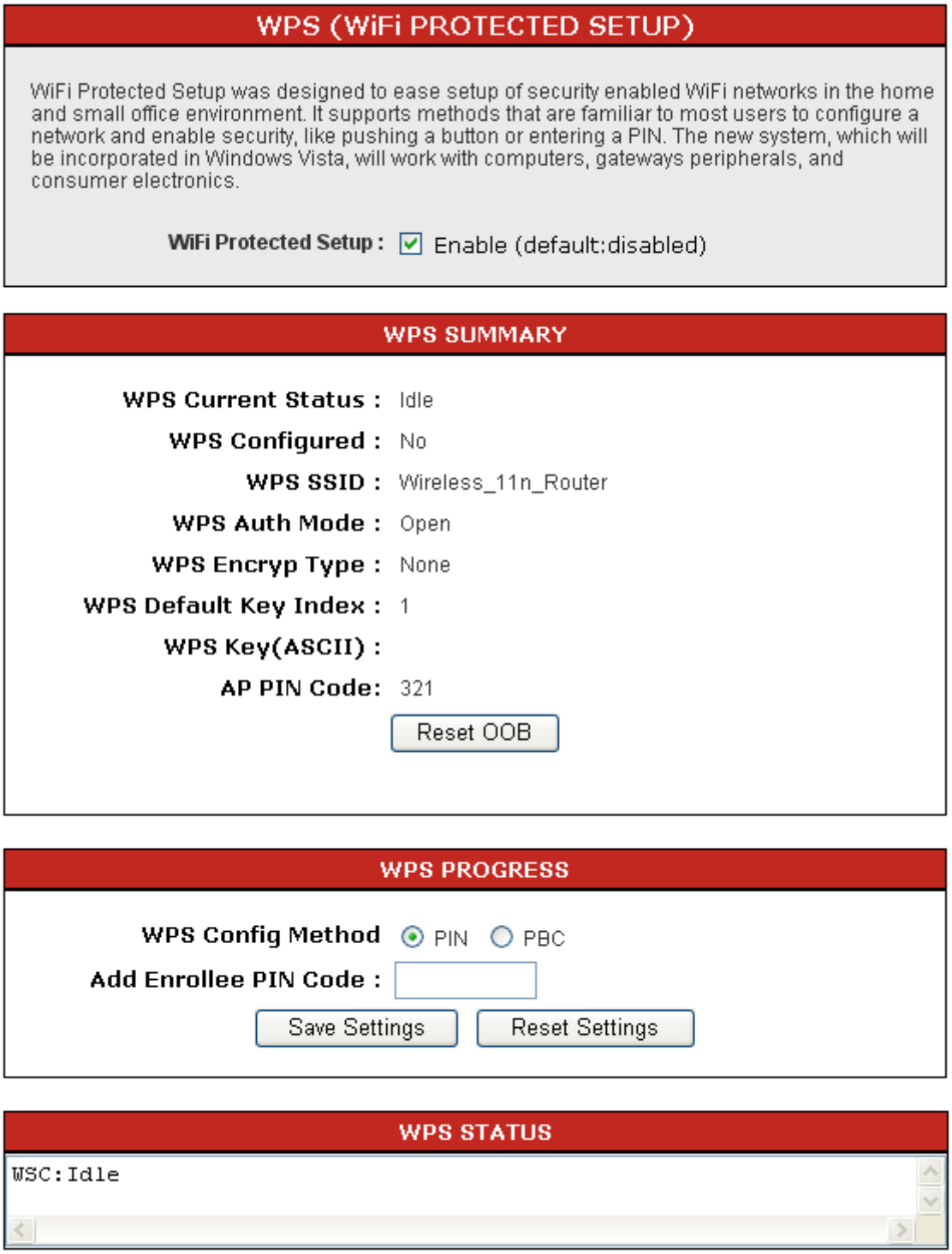

WDS SETTINGS
WDS Mode : AP+WDS (AP Repeater) (default:disabled)
WDS Phy Mode : GREENFIELD
WDS Encryption Type : AES
WDS Encryption Key :
WDS Partner 1 MAC :
WDS Partner 2 MAC :
WDS Partner 3 MAC :
WDS Partner 4 MAC :

Items	Information
WDS Mode	Select the option in the drop-down list to enable AP+WDS (AP Repeater), WDS (AP Bridge) or Auto (AP Bridge) as WDS mode.
Phy Mode	Select the option in the drop-down list to enable CCK, OFDM, HTMIX, or GREENFIELD mode for physical layer transceivers.
Encryption Type	Select the option in the drop-down list to enable WEP, TKIP, and AES encryption types. If you select None, any data will be transmitted without encryption and any station can access the router.
Encryption Key	For encryption type of TKIP and AES, you have to fill in the WPA encryption key. Please use Pass Phrase (8~32bytes) key format.
WDS Partner 1~4 MAC	For encryption type of TKIP and AES, you have to fill in the WDS AP MAC. You can fill up to 4 sets of WDS AP MAC lists.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

WPS Settings

The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simplify the security setup and management of Wi-Fi networks. This Router supports the configuration setup using PIN configuration method or PBC configuration method through an internal or external Registrar.


WPS (WiFi PROTECTED SETUP)
WiFi Protected Setup was designed to ease setup of security enabled WiFi networks in the home and small office environment. It supports methods that are familiar to most users to configure a network and enable security, like pushing a button or entering a PIN. The new system, which will be incorporated in Windows Vista, will work with computers, gateways peripherals, and consumer electronics.
WiFi Protected Setup : Enable (default:disabled)
WPS SUMMARY
WPS Current Status : Idle
WPS Configured : No
WPS SSID : Wireless_11n_Router
WPS Auth Mode : Open
WPS Encryp Type : None
WPS Default Key Index : 1
WPS Key(ASCII) :
AP PIN Code: 321
Reset OOB
WPS PROGRESS
WPS Config Method PIN PBC
Add Enrollee PIN Code :
Save Settings
Reset Settings
WPS STATUS
WSC:Idle

WPS Summary

Shows the information of WPA current status, configured, SSID, authentication mode, and pre-shared key. Click on **Reset OOB** button to Reset WPS AP to the OOB (out of box) configuration.

WPS Progress

Items	Information
WPS mode	**PIN** method (Personal Identification Number): read the PIN from either a sticker on the new STA or a display. **PBC** method (Push Button Communication): in which the user simply has to push a button, either an actual or virtual one, on both the AP and the new STA. (Users can simply push the **EZsetup** button[1] on the front panel of the device or the **Save Settings** button in this GUI page after selecting this mode.)
Add Enrollee PIN Code	Users have to fill in the PIN code to enrollee device if selecting PIN mode as the WPS Config method.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

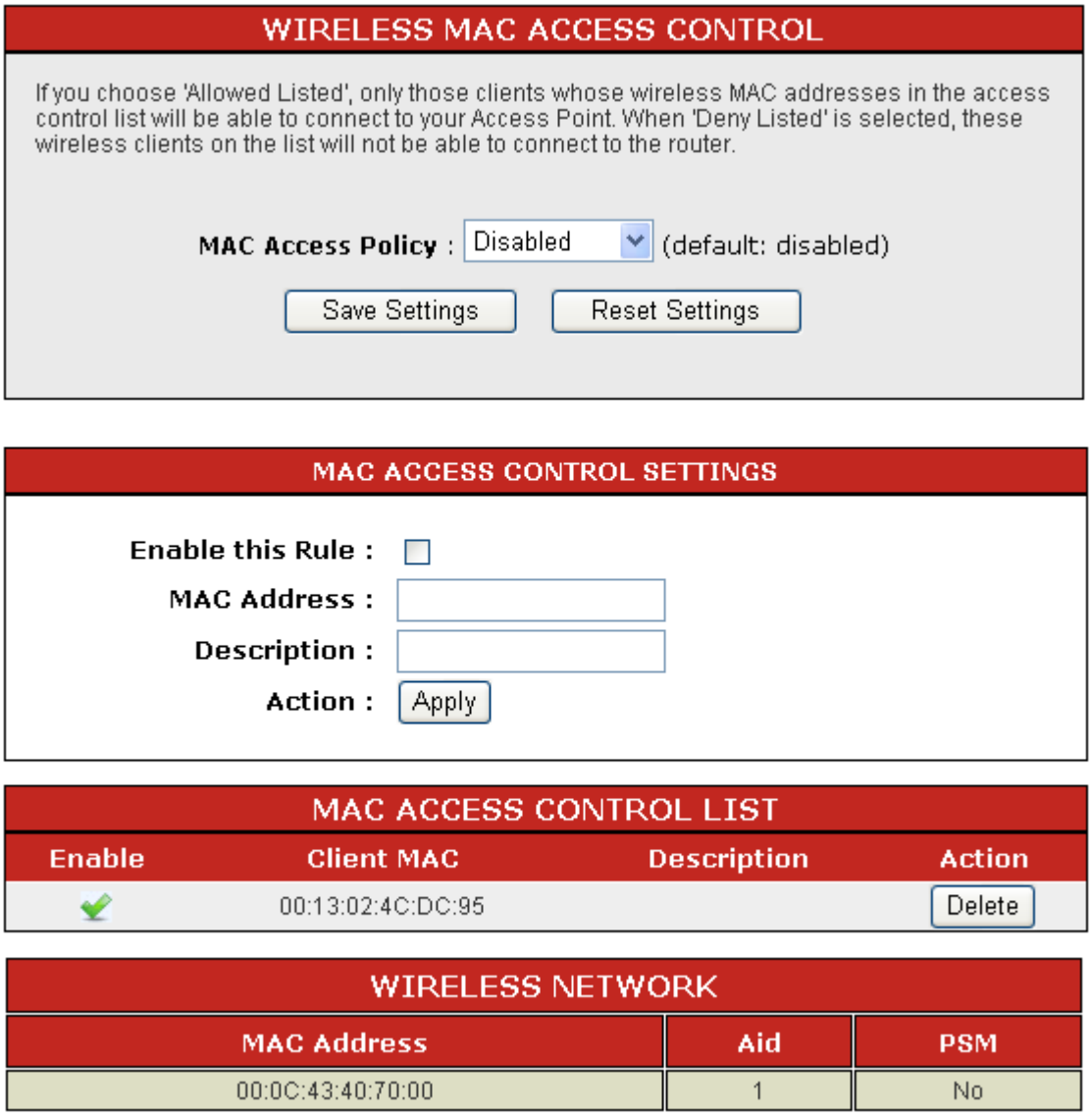
WPS Status

Shows the current WPS status.

[1] This button may not supplied depend on your model. Users can click on the **Build WPS Connection** button in the WPS settings web page to reach the same function.

Access Control

To restrict the Number of Access authentication of Stations, set up the control list in this page. You may select “Allow Listed” to allow those allowed MAC addresses or select “Deny Listed” to ban those MAC addresses from accessing to AP.


WIRELESS MAC ACCESS CONTROL
If you choose 'Allowed Listed', only those clients whose wireless MAC addresses in the access control list will be able to connect to your Access Point. When 'Deny Listed' is selected, these wireless clients on the list will not be able to connect to the router.
MAC Access Policy : Disabled (default: disabled)
Save Settings
Reset Settings
MAC ACCESS CONTROL SETTINGS
Enable this Rule :
MAC Address :
Description :
Action : Apply
MAC ACCESS CONTROL LIST
Enable
Client MAC
Description
Action
00:13:02:4C:DC:95
Delete
WIRELESS NETWORK
MAC Address
Aid
PSM
00:0C:43:40:70:00
1
No

MAC Access Control Settings

Items	Information
Enable this Rule	Mark to enable the configuration, and clear to disable.
MAC Address	Fill in the MAC address that you wish to control.
Description	Give a definition to the MAC Address.
Action	After configuring the above settings, click **Add** to add a new list in the following MAC Access Control List. The **Change** button can be used to change the configuration.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

MAC Access Control List

Lists the MAC Access Control Settings you have added before. Click on the list to change configuration, or the **Delete** button to delete the list.

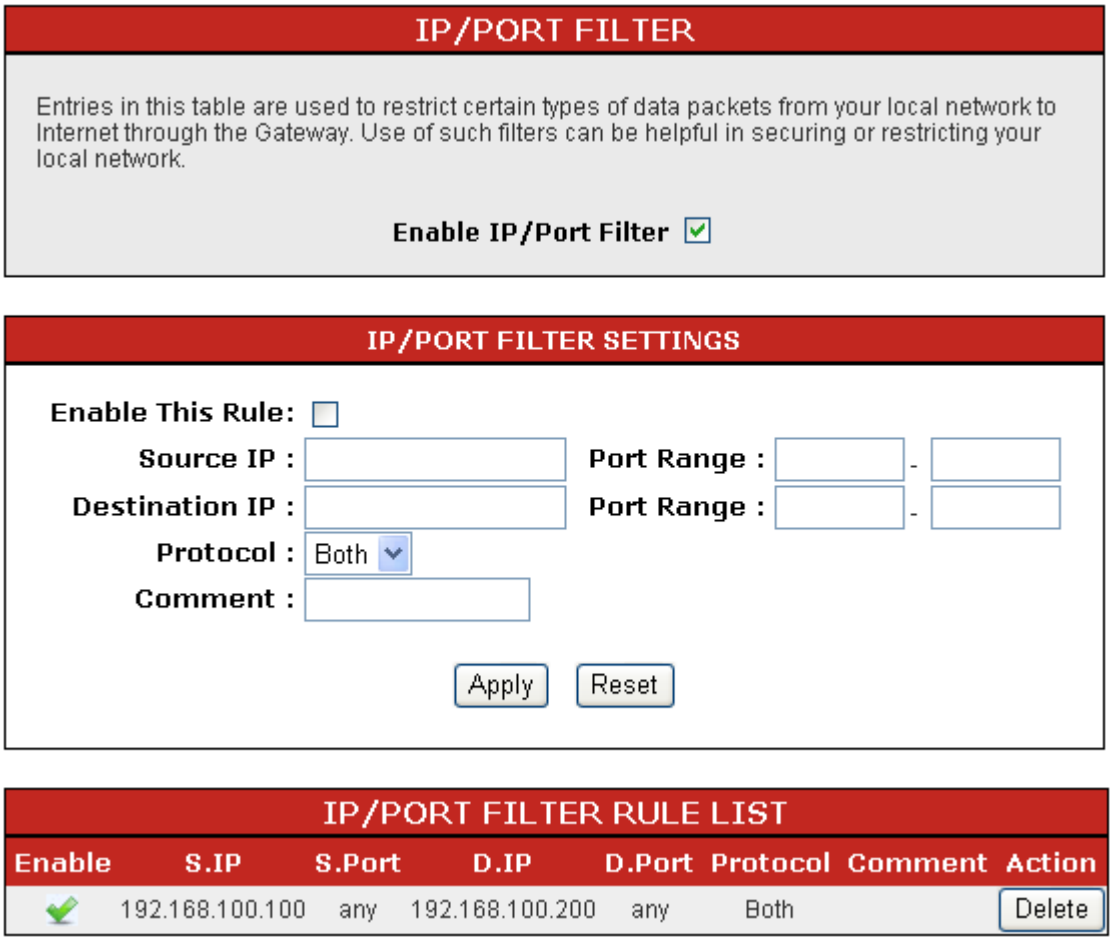
Wireless Network

Lists the current associated client connected to this device. Click on the list to add it into the MAC Access Control List, and to do more configurations on it.

Firewall Settings

IP / Port Filter

The Wireless Router could filter the outgoing packets for security or management consideration. You can set up the filter against the IP addresses to block specific internal users from accessing the Internet. The firewall could not only obstruct outside intruders from intruding your system, but also restricting the LAN users. Port filter restricts certain type of data packets from your LAN to Internet through the router.

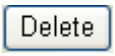


IP / Port Filter Settings

Items	Information
Enable This Rule	Select to enable or disable the IP/Port filter function.
Source IP Address / Port Range	Fill in the source IP address and port range that you wish to filter.
Destination IP Address / Port Range	Fill in the destination IP address and port range that you wish to filter.
Protocol	Select the protocol type of TCP, UDP or Both.
Comment	Input any text to describe this mapping, up to 16 alphanumerical characters.
Apply / Reset Button	After configure the above settings, click **Apply** to add a new list in the following IP / Port Filter Rule List; or click **Reset** to reset all the setting.

* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

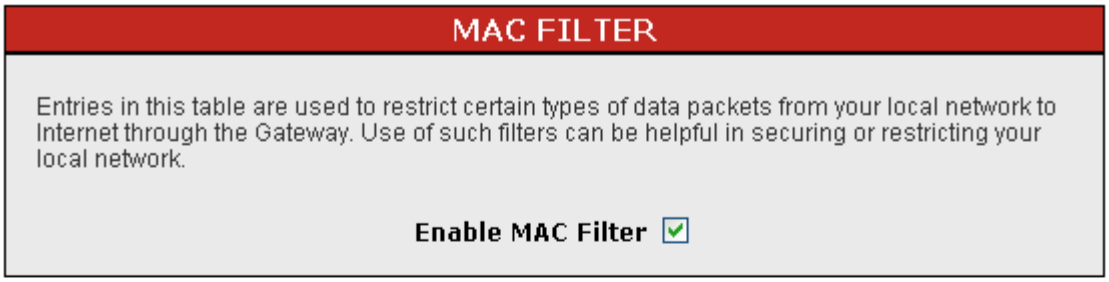
IP / Port Filter Rule List

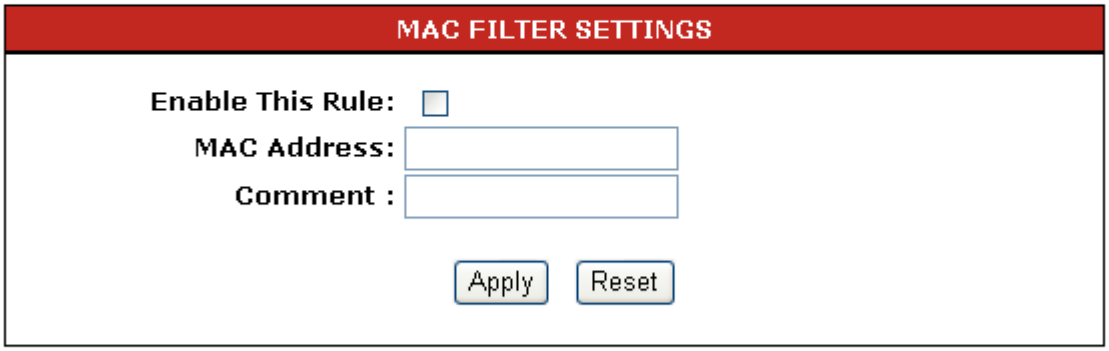
Lists the IP / Port Filter Settings you have added before. Click on the list to change configuration, or the 

button to delete the list.

MAC Filter

The Wireless Router could filter the outgoing packets for security or management consideration. You can set up the filter against the MAC addresses to block specific internal users from accessing the Internet.


MAC FILTER
Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.
Enable MAC Filter



MAC Filter Settings

Items	Information
Enable This Rule	Select to enable or disable MAC filter function.
MAC Address	Fill in the MAC address that you wish to filter.
Comment	Input any text to describe this mapping, up to 16 alphanumerical characters.
Apply / Reset Button	After configure the above settings, click **Apply** to add a new list in the following IP / Port Filter Rule List; or click **Reset** to reset all the setting.

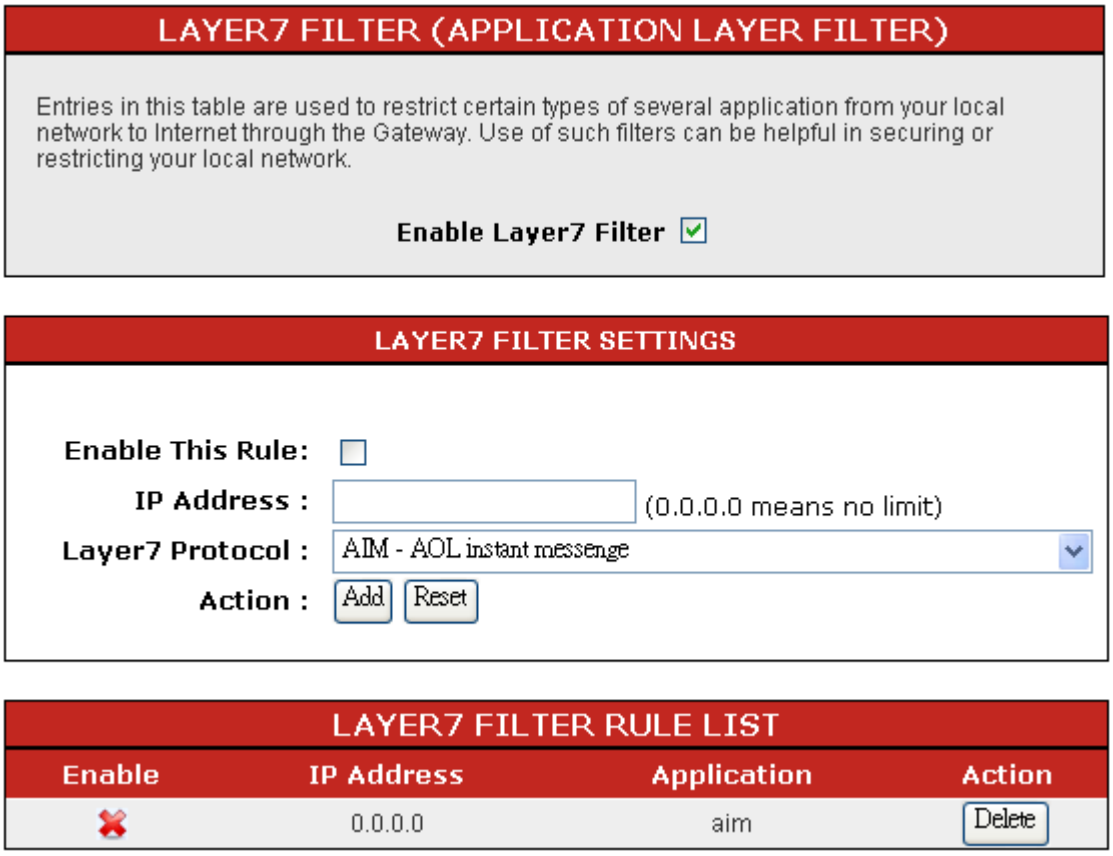
* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

MAC Filter Rule List

Lists the MAC Filter Settings you have added before. Click on the list to change configuration, or the Delete button to delete the list.

Layer7 Filter

The layer7 filtering restricts certain type of data packets from your LAN to Internet through the router. You can setup the filter against the IP address to block specific internal users from accessing protocols that you have designated. After marking or clearing the enable checkbox, it takes 5 seconds for this device to refresh the page.


LAYER7 FILTER (APPLICATION LAYER FILTER)
Entries in this table are used to restrict certain types of several application from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.
Enable Layer7 Filter
LAYER7 FILTER SETTINGS
Enable This Rule:
IP Address :
(0.0.0.0 means no limit)
Layer7 Protocol :
AIM - AOL instant messenge
Action :
Add
Reset
LAYER7 FILTER RULE LIST
Enable
IP Address
Application
Action
0.0.0.0
aim
Delete

Layer7 Filter Settings

Items	Information
Enable This Rule	Mark to enable the configuration, and clear to disable.
IP Address	Fill in the IP address that you wish to filter.
Layer7 Protocol	Select a layer 7 protocol for your demand.
Action	After configure the above settings, click **Add** to add a new list in the following IP Filter Rule List. The **Change** button can be used to change the configuration.

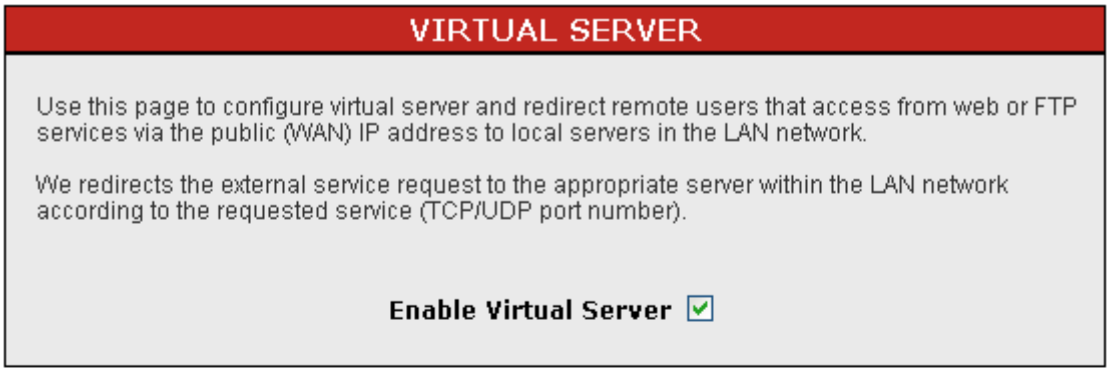
* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

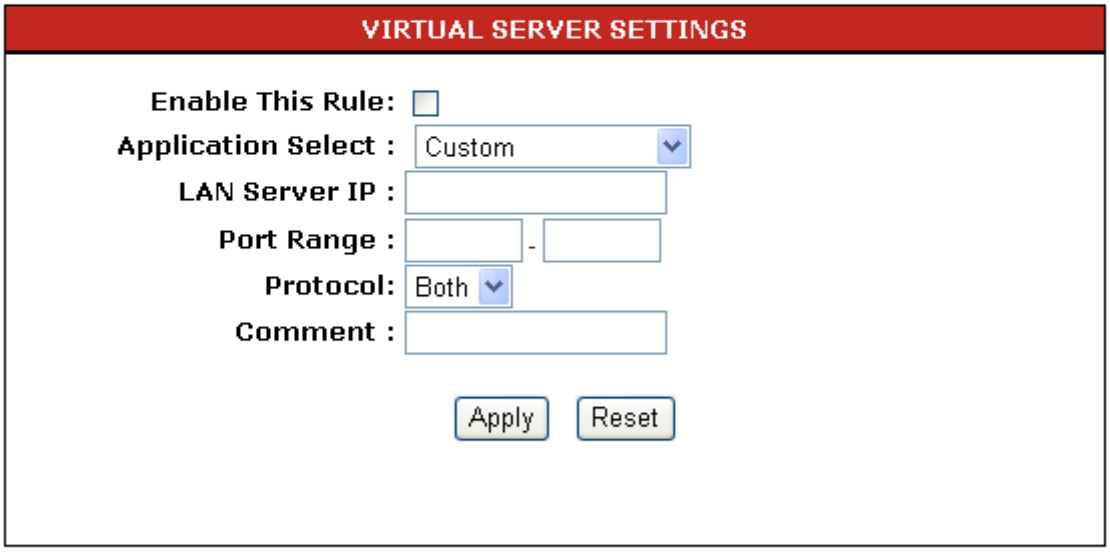
Layer7 Filter Rule List

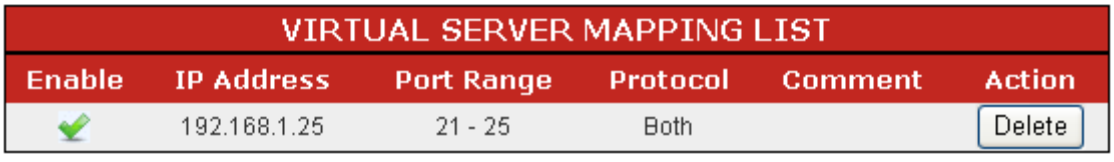
Lists the Layer7 Filter Settings you have added before. Click on the list to change configuration, or the Delete button to delete the list.

Virtual Server

Virtual Server help redirect requests from computers on the LAN to a server set up on the LAN. You can setup an Internet service on the computer on local network, without exposing it on Internet directly. You can also build many sets of port redirection, to provide many different Internet services on different local computers via a single Internet IP address.


VIRTUAL SERVER
Use this page to configure virtual server and redirect remote users that access from web or FTP services via the public (WAN) IP address to local servers in the LAN network.
We redirects the external service request to the appropriate server within the LAN network according to the requested service (TCP/UDP port number).
Enable Virtual Server





Virtual Server Settings

Items	Information
Enable This Rule	Mark to enable the configuration, and clear to disable.
Application Select	Select an application for your demand.
LAN Server IP	Fill in the IP of your LAN Server.
Port Range	Fill in the port range that you wish to filter.
Protocol	Select the protocol type of TCP, UDP or Both.
Comment	Input any text to describe this mapping, up to 16 alphanumerical characters.
Apply / Reset Button	After configure the above settings, click **Apply** to add a new list in the following IP / Port Filter Rule List; or click **Reset** to reset all the setting.

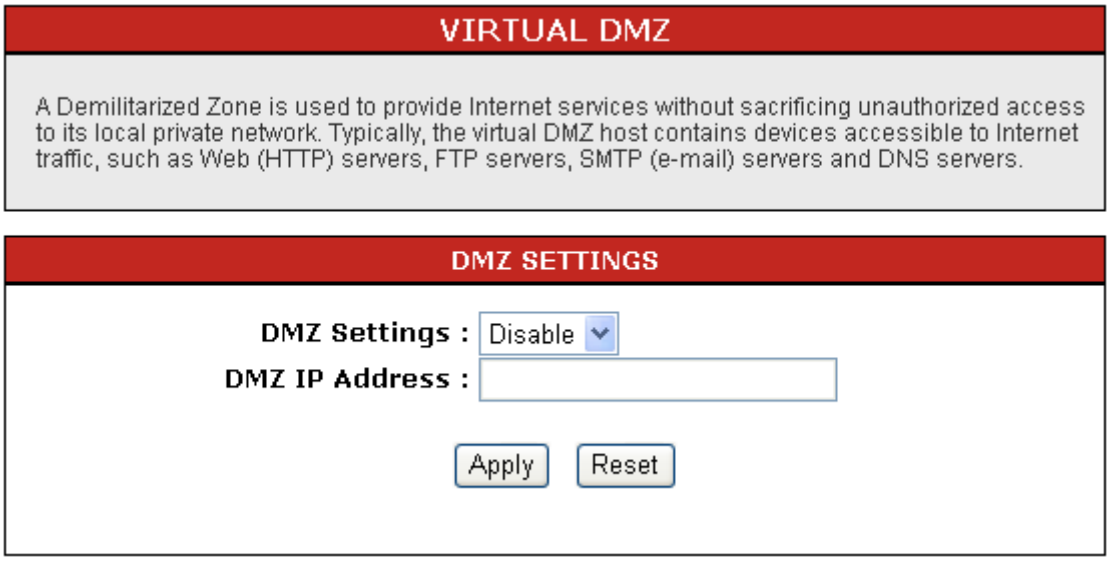
* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

Virtual Server Mapping List

Lists the Virtual Server Settings you have added before. Click on the list to change configuration, or the **Delete** button to delete the list.

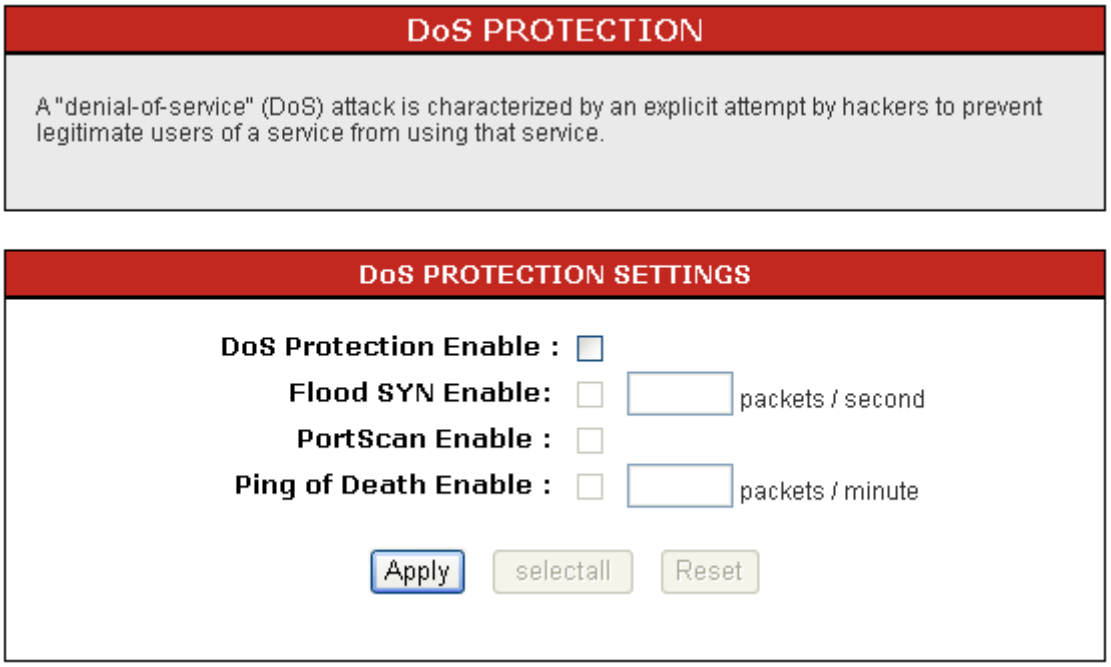
Virtual DMZ

The virtual DMZ (Demilitarized Zone) is used to enable protocols, which need to open ports on the router. The router will forward all unspecified incoming traffic to the host specified in this page. To configure it, mark to enable virtual DMZ and then enter the Host IP (private IP address) and click **Apply** to enact the setting.


VIRTUAL DMZ
A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the virtual DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.
DMZ SETTINGS
DMZ Settings :
Disable
DMZ IP Address :
Apply
Reset

DoS Protection

A DDoS (Distributed Denial of Service) attack attempt to disrupt the network and information system by sending abnormal packets to overload your Internet connection. DDoS protect function helps to detect and block those malevolent DDoS attack. It is strongly recommended that this setting be left enabled. Please mark to enable the DoS protection function. Manually adjust the value of packet threshold and click **Apply** to enact the setting.


DoS PROTECTION
A "denial-of-service" (DoS) attack is characterized by an explicit attempt by hackers to prevent legitimate users of a service from using that service.
DoS PROTECTION SETTINGS
DoS Protection Enable :
Flood SYN Enable:
packets / second
PortScan Enable :
Ping of Death Enable :
packets / minute
Apply
selectall
Reset

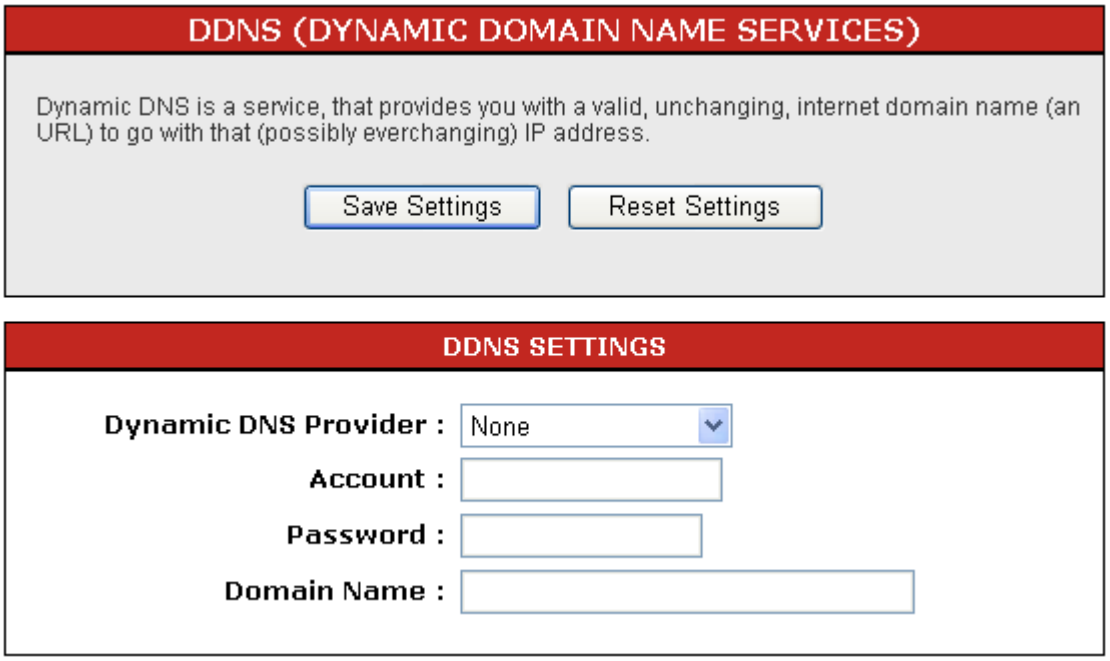
Services Settings

DDNS Settings

DDNS (Dynamic Domain Name Server) service allows users to connect to this device via a fixed and easy-to–remember hostname. This router supports DDNS service of following service providers:

DynDNS (http://www.dyndns.org)
TZO (http://www.tzo.com)
FreeDNS (http://freedns.afraid.org/)
Zoneedit (www.zoneedit.com)
No-IP.com (www.no-ip.com)

Please go to one of DDNS service provider's web page listed above, and get a free DDNS account by the instructions given on their web page.

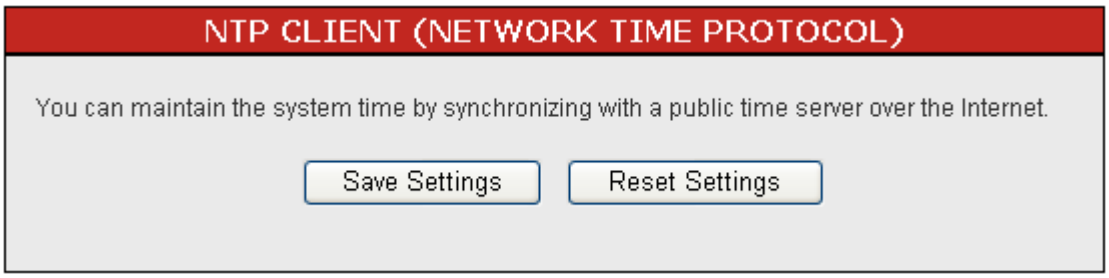

DDNS (DYNAMIC DOMAIN NAME SERVICES)
Dynamic DNS is a service, that provides you with a valid, unchanging, internet domain name (an URL) to go with that (possibly everchanging) IP address.
Save Settings
Reset Settings
DDNS SETTINGS
Dynamic DNS Provider :
None
Account :
Password :
Domain Name :

Items	Information
Dynamic DNS Provider	The website that provides DDNS service. Please select from the drop-down list.
Account	DDNS login account. For DynDNS users, please fill in your user name; for No-IP and TZO users, please fill in your email address.
Password	The password of your DDNS service account.
Domain Name	The hostname that you have applied for the device.

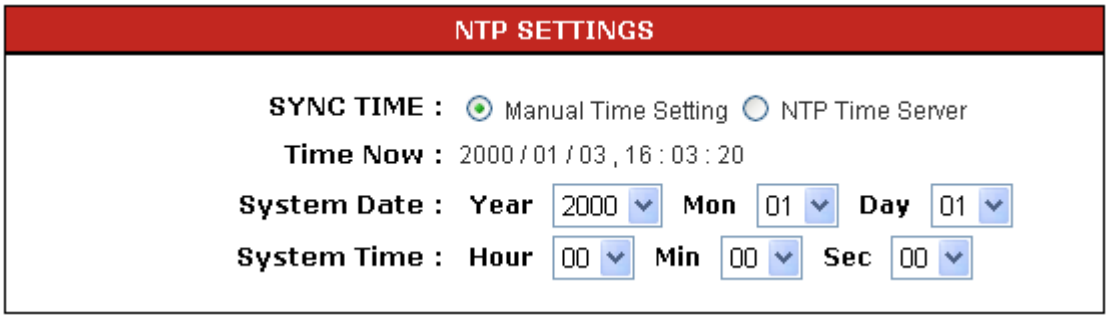
* Please click on the **Save Settings** button or the **Reset Settings** button on the above table to save/reset the configurations.

Date/Time Settings

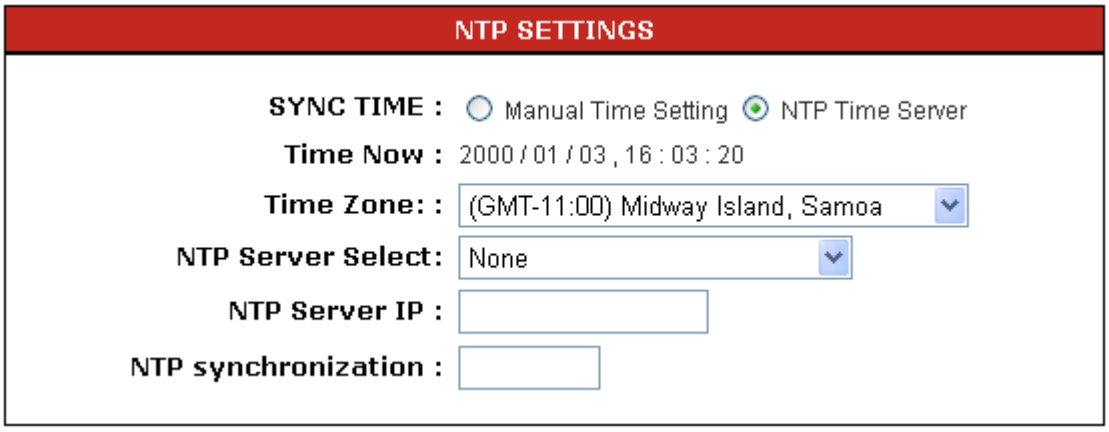
This page allows users to configure the date and time of this router. To specify manually, select the date and time from the drop list and click the Save Settings button. To synchronize time from a timeserver, please enter the update interval hour numbers, select an NTP server from the drop list or manually enter a private NTP server and then click the Save Settings button to execute.


NTP CLIENT (NETWORK TIME PROTOCOL)
You can maintain the system time by synchronizing with a public time server over the Internet.
Save Settings
Reset Settings

Manual Time Setting


NTP SETTINGS
SYNC TIME : Manual Time Setting NTP Time Server
Time Now : 2000 / 01 / 03 , 16 : 03 : 20
System Date : Year 2000 Mon 01 Day 01
System Time : Hour 00 Min 00 Sec 00

NTP Time Server


NTP SETTINGS
SYNC TIME : Manual Time Setting NTP Time Server
Time Now : 2000 / 01 / 03 , 16 : 03 : 20
Time Zone: : (GMT-11:00) Midway Island, Samoa
NTP Server Select: None
NTP Server IP :
NTP synchronization :

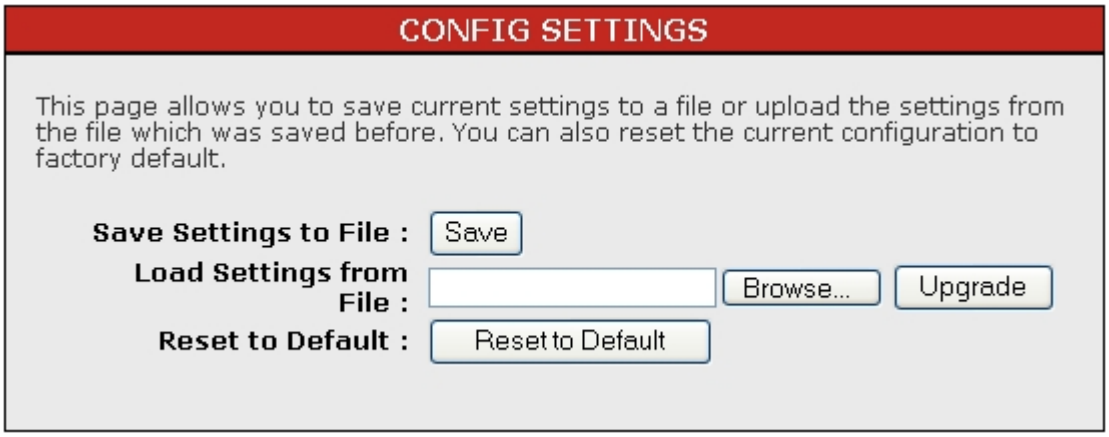
Management

Admin Account

The admin account is the account for accessing this configuration interface. In this page, you can reset the password of the admin account and setup a designated IP to remote control this device.

Config

The Config page allows users to backup and download the configuration status of the device or restore the factory default configuration.


CONFIG SETTINGS
This page allows you to save current settings to a file or upload the settings from the file which was saved before. You can also reset the current configuration to factory default.
Save Settings to File :
Save
Load Settings from File :
Browse...
Upgrade
Reset to Default :
Reset to Default

Items	Information
Save Settings to File	Click on the Save button to save the currently configure settings.
Load Settings from File	Click Browse... to select the file and then click Upgrade to start the process. Please wait for it to complete.
Reset Settings to Default	Click Reset to Default to start the process and it will be completed till the status LED starts blinking.

Firmware Upgrade

Sometimes a new firmware may be issued to upgrade the system of this device. You could upgrade the firmware you got in this page. To upgrade the firmware, please click on the **Browse** button, locate the firmware in your computer and then click the **Upgrade** button to execute.

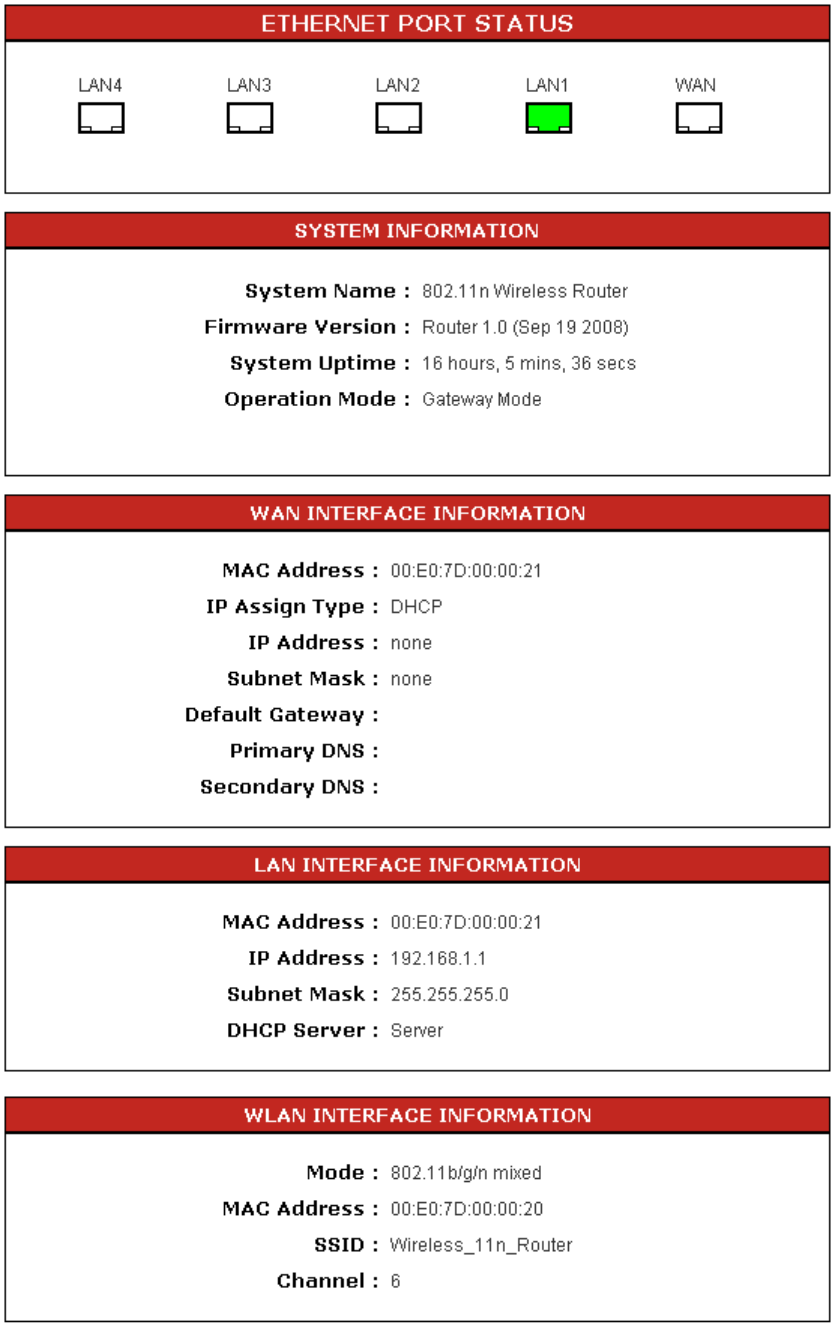
FIRMWARE UPGRADE
This page allows you to upgrade firmware to new version.
Firmware File :
Browse...
Apply
Please note:
Do not power off the device during upgrading because it may crash the system.

Note: A notice window pops up once you enter this page. Please follow the instruction to close wireless connection if you are going to do firmware upgrade.

Information

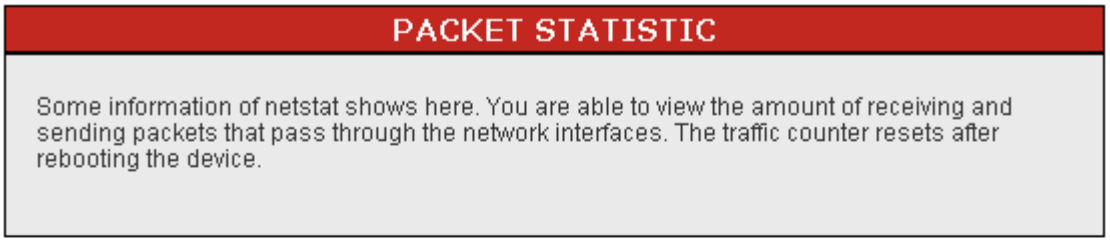
System Information

This information page shows the current settings of this device. You could check if the parameters match your configuration.



Packet Statistics

This page allows users to get information of data transferring condition, and monitor the status and performance of this router including interface, receiving/sending packets, and receiving/sending errors.

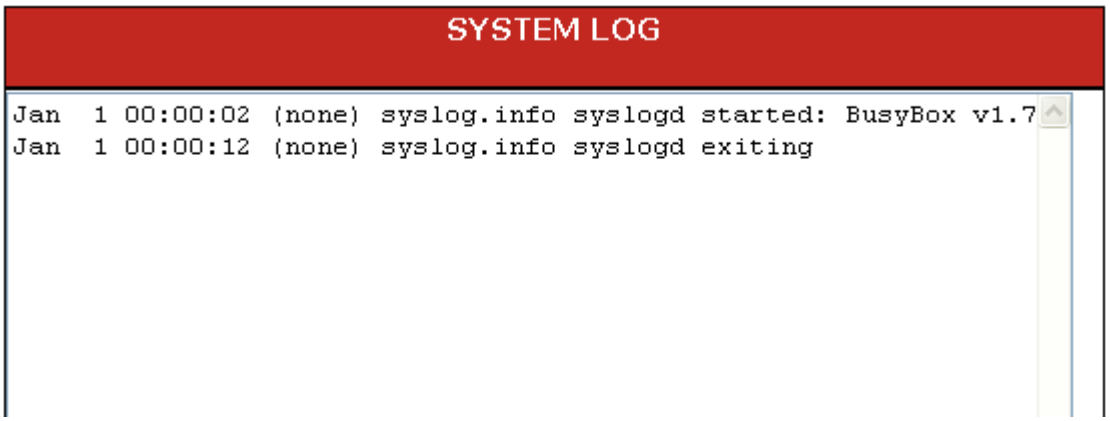

PACKET STATISTIC
Some information of netstat shows here. You are able to view the amount of receiving and sending packets that pass through the network interfaces. The traffic counter resets after rebooting the device.

Interface	Recv Pkts	Send Pkts	Recv Bytes	Send Bytes
lo	0	0	0	0
eth2	2403	12021	275189	7060196
ra0	10865	3718	576276	2680514
wds0	0	0	0	0
wds1	0	0	0	0
wds2	0	0	0	0
wds3	0	0	0	0
eth2.1	2391	1980	240546	1095842
eth2.2	0	10041	0	5964354
br0	4597	3902	457178	2245035

System Log

This page shows the system log information.

Note: You have to enable System Log first or you cannot see any messages shown on this page. Please refer to Services Settings > System Log Settings for more information.



Logout

Logout

Click the **Logout** button to log out the admin account from this system.

Reboot

Click the **Reboot** button to restart this system. This may cost 1 minute to restart the system. Please wait upon restarting.

Product Specifications

Standard	IEEE 802.11n draft 2.0, IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u
Interface	LAN: 4 port 10/100Mbps Ethernet, RJ-45 WAN: One RJ-45 port 3* wireless antennas 1* Reset to default button 1* WPS button
Antenna	Antenna gain: 2dB Antenna type: Dipole Antenna connector type: Reverse SMA
WAN Connection	Ethernet 10/100 Mbps
Cable Connections	RJ-45 (10BASE-T): Category 3,4,5 UTP RJ-45 (100BASE-TX): Category 5 UTP
Transmission Mode	Auto-Negotiation (Full-duplex, Half-duplex)
LED indications	1*Status, 1*WAN, 4*LAN, 1*WLAN
Security	64/128-bit WEP, WPA, WPA2
Network Data Rate	802.11b: 1,2,5.5, and 11Mbps 802.11g: 6,9,12,18,24,36,48 and 54Mbps 802.11n: up to 300Mbps
Receiver Sensitivity	802.11b-91dBm, 802.11g-78dBm, 802.11n -69dBm
Transmit Power	802.11b 19dBm, 802.11g 16dBm, 802.11n 20MHz and 802.11n 40MHz 16dBm
Channel	USA 11, Europe 13
Range Coverage	Indoor 35~100 meters Outdoor 100~300 meters.
Emission	FCC CLASS B, CE FCC Part 15.247 for US (2.412~2.462MHz) ETS 300 328 for Europe (2.400~2483.5MHz) DGT LP0002 for Taiwan (2.412~2.462MHz)
Temperature	Operating: 0° ~ 40°C Storage: –10° ~ 70°C
Humidity	Operating: 10 ~ 90% RH, non-condensing Storage: 5~95% RH, non-condensing
Power Supply	External Power Adapter, 12VDC/ 1A

DECLARATION OF CONFORMITY IN ACCORDANCE WITH THE RADIO AND TELECOMMUNICATIONS TERMINAL EQUIPMENT ACT (FTEG) AND DIRECTIVE 1999/5/EC (R & TTE DIRECTIVE)

CE **= European Community Conformity Mark**

We, Manufacturer/Importer

Longshine Technologie (Europe) GmbH
An der Strusbek 9
22926 Ahrensburg
Germany

Declare That The Product

LCS-WR5-3214N
IEEE802.11n Wireless Router

Is In Conformity With:

Standards	**Results**
EN 300 328 V1.7.1 (2006-10)	Pass
EN 301 489-1 V1.6.1 (2005-09)	Pass
EN 301 489-17 V1.2.1 (2002-08)	Pass
EN 50385:2002	Pass

Identification of signatory empowered to bind the manufacturer or his authorized representative.

Signature
Manufacturer/Importer

Date: 07.11.2008